

Breaking into the IVY LEAGUE: E. Patrick McQuaid examines admissions procedures at America's elite campuses. How are they coping with economic pressures? (page 10)



Historians are turning to crime: John Rule looks at the wave of research into criminal activity and its punishment; and in detail at the notorious case of the TOLPUDDLE MARTYRS, transported for forming a union 150 years ago (page 13)

KEYWORKS: in the first of a series of three articles on "set texts", Arthur Marwick rereads a book which has continued to sell "almost entirely on the basis of its title alone", E. H. Carr's *What is History?* (page 14)

Legal, decent, honest, truthful? Malcolm Bee and Peter Dolton discuss the shortcomings of prospectuses and some new league tables of DEGREE CLASSIFICATION at the English and Welsh universities (page 15)

HENRY JAMES confronted all the problems of being an artist in "the age of trash triumph" and explored the relation between vulgarity and immorality. Valerie Shaw reviews three new editions of his short stories (page 17)

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A Green prospective

The popular prediction is that the forthcoming Green Paper will be something of a squib. Well, yes and no: yes in the sense that it will contain few startling recommendations; no in the sense that despite this it will confirm an agenda for higher education and establish a policy flavour that is very different from the agenda and accompanying flavour established in the 1960s. The Green Paper when it is published at the turn of the year will probably be dismissed as a collection of platitudes and prejudices. Nevertheless it will validate the context that will surround higher education until the end of this century.

The details of the paper are almost bound to be disappointing. There have been so many debates, great and little, about the future of higher education in the last five years that almost every possible suggestion has already been made. The Department of Education and Science started it all in the dying months of the last Labour government with its brown paper *Higher Education into the 1990s*. Then came Leverhulme with its seminars, monographs and final report. More recently the National Advisory Body has shown itself both a creative producer and a hungry consumer of plans and policies for the future. Finally the University Grants Committee has joined the public policy circus with its high-profile "great debate" and its elegant advice to Sir Keith Joseph. The Green Paper therefore has to be backed out of a policy vein that has been intensively mined for at least five years; both the quantity and sparkle of its ore are bound to be modest.

So it will be comprehensive rather than exciting, an exercise in drawing the threads together rather than producing yet another crop of speculative initiatives. There will be chapters on quality and cost-effectiveness, as Sir Keith indicated in his speech in the recent House of Commons debate on higher education. But in both areas the Green Paper cannot go much beyond general statements. On quality the Lindop committee which is examining

external validation in the non-university sector and the Reynolds committee which is examining academic standards in universities stand in the way of the DES taking any precise or decisive initiative. Both committees have yet to report (although Reynolds has produced an interim report of external examining, which may offer the DES a useful rhetorical lever).

It is a similar story on cost-effectiveness. The DES can hardly preempt the findings of the Jarratt inquiries, although it will certainly insist that these findings are presented in a form that will make them easily applicable across the whole university sector. The Green Paper will probably make it clear that Jarratt must be seen as the beginning not the end of the exploration of ways to make universities more cost-effective. In the polytechnic and college sector the search for greater cost-effectiveness is so bound up with the central policy preoccupations of the NAB, unit costs, weighting, mitigation, and so on, that the DES has little room for independent manoeuvre.

After quality and cost-effectiveness selectivity is certain to be an important theme of the Green Paper. But again the DES has little room for independent manoeuvre. The practical groundwork on how a more selective regime might be introduced has simply not been done. So as with Lindop, Reynolds and Jarratt ministers may have to wait to see what the three working groups on selectivity established by the UGC, the vice chancellors and the Advisory Board for the Research Councils that are to cover medicine, natural science, and the rest can suggest. Only then can selectivity be translated from a bright idea into practical policy.

A fourth theme will be flexibility. So the Green Paper will contain a significant chapter on continuing education. Here too there are likely to be few surprises, not because the DES's hands are tied by current inquiries but because the views of ministers and civil servants are already well established.

The DES's favourite formula for continuing education is well known - a small dash of pump-priming from funds directly under its control, followed by a rapid move to self-sufficiency or even profitability; substantial industrial or professional involvement and a strong element of collaboration between institutions are also greatly desired.

Finally of course the Green Paper has been preempted by the DES itself. On Monday Sir Keith announced details of the Government's expenditure plans for education and science in 1985/86. They answer many of the questions thrown up by the loosely coupled debate about the future of higher education which has struggled over recent years. These answers no doubt will be underlined and elaborated in the subsequent Green Paper.

So policies continue to develop and decisions to be made before as they will be after the Green Paper. But this does not mean that the paper will be an unimportant document. Those who will inevitably criticize it as an anti-climax will miss the point. The Green Paper is not a Royal Commission done on the cheap in the office; it is not a mere process of the higher education should take in the remaining 16 years of this century; its intention is not to announce existing new departures.

Instead the Green Paper is designed to consolidate the experience of the last five years and to validate the direction of future policy; its purpose is to legitimize the recent post-1979 past not to invent the future; it is not the next stage in an exciting debate but a rather staid summing up. Cynics of course will argue that the whole process from Sir Keith Joseph's letter to Sir Edward Parnes two years ago to the forthcoming Green Paper, higher education's "great debate", has been a confidence trick. It has been a device to dull the pain of contraction, to habituate higher education to a new iron age. Maybe that is not fair to the civil servants and even the ministers engaged in its production. But it may still be its final effect even if it was not its initial intention.

The defence of grants

The present system of student grants is 22 years old. It looks unlikely to last for another 22 years without radical reform. That is the first and most important lesson to be learnt from Sir Keith's announcement that the minimum student grant, paid to all students regardless of how rich their parents are, is to be abolished, and that richer parents will also have to contribute to tuition fees. Up to a quarter of a million students, half the total, will be affected in some way. Parents earning a residual income of more than £20,000 will have to contribute £725 on top of the £1,680 they already contribute.

The lesson is a simple one. Student awards now appear the least defensible and so the most squeezable element in the higher education budget. As the competition for priority intensifies, they will be squeezed and squeezed until the whole system of student grants is eroded out of all recognition. After all Sir Keith's decision can hardly have come as a surprise. The minimum grant has already been halved, so abolition was a logical next step. The prospect now is for a series of structural changes in the awards system, all contrary to the interests of students in the sense that more of the financial burden of their higher education will be placed on their parents (or their grandparents) rather than on the state, accompanied by unremitting erosion of the value of the grant.

It is naive to attribute this inexorable process to Tory malice; rather still to place much faith in the determination of some future anti-Tory government to reverse it. The simple truth is that the present grants system is becoming less credible while the competition for resources in higher education is becoming more intense. The outcome is almost inevitable, as Sir Keith demon-

strated on Monday when he robbed student grants to pay for increased investment in scientific research. Who does not believe that if a choice must be made between maintaining a highly regressive cash benefit to rich parents and struggling to keep Britain in the first division of the international research league, whether in particle physics or strategic areas like advanced computers and biotechnology, that the latter must be preferred?

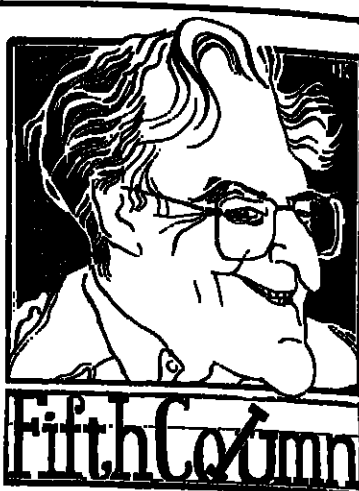
Student awards are a political mess. The comparison with tax relief on mortgages, which implies that grants are an entrenched ingredient of middle-class privilege that no government, especially not a Conservative government, would dare to remove, is clearly wrong. Sir Keith has proved that. Another more ominous comparison for the National Union of Students is with the Labour Party's Students' Union, which has been a constant wobbly opposition to council house sales. So not only is the present Conservative Government unmoved by the insinuation that rich voters will not stand for any tampering with student grants, but a future Labour government is highly likely to seek radical reform of the present grants regime in ways almost as unpalatable to those who benefit from the status quo.

Of course the grants system has always produced a regressive pattern of benefit. But in the years of rapid expansion the gross imbalance in the social constituency served by higher education could be regarded as a temporary phenomenon. No longer. Not only has expansion slowed to a standstill under the present Government, but the activities of expansion no longer see it in terms of full-time degree students, but in terms of part-time, sub-degree, and continuing

education students all of whom are discriminated against by the present grants regime.

The NUS therefore cannot honourably persist in a Luddite defence of the present system. Nor is it credible to argue that the grants net can be endlessly extended to new groups of students without the present arrangements being radically reformed. A negative and passive defence of the status quo will only allow the present erosion to continue unchecked. What is needed is a fundamental review of student support, on which the defence of a truly progressive system can be firmly based. Such a system must be relevant to the condition not only of middle-class adolescents on full-time courses but of part-timers and adults, in jobs and unemployed, who otherwise will be threatened with a separate loans scheme.

The solution must lie in the closer integration of student support with our tax and social security systems. The key is taxable rather than means-tested benefits. In the case of the young the benefit could go to the student and the tax liability would be borne by the parents. For older students fees could be tax deductible. A scheme of paid educational leave could be grafted on to national insurance. For the unemployed and non-employed a system of learning benefits could be devised. Critics will argue that such a wholesale restructuring of post-school learning support would be beyond our means. It would be less wasteful and more purposeful in the long run than the emerging chaos of MSC training allowances, inadequate student grants, and adult training loans.



Fifth Column

I always thought of it as Constantinople and I still do even after a week in Istanbul. That is not a political comment. It is merely a comment upon my education which, like that of many products of an English schooling, comes to an end in that part of the world on Tuesday May 29 1453. Having been trained as an architect I decided that I could not allow myself to die without seeing Hagia Sophia, one of the really great buildings of any part of the world.

It is a scruffy building (like the city itself), mishapen in parts after earthquakes, scarred everywhere after removing the plaster that covered the mosaics when it became a mosque. The huge circular wooden plaques inscribed with the names of Allah, the Prophet and the first four Caliphs, were put there during the restoration of 1847 and so were the mihrab and the minbar, awkward ugly structures that seem to have been dropped in without thinking of the geometry of the church.

But nothing can rob this astonishing structure of its spectacular magnificence. It does not seem surprising that when Sultan Mehmet the Conqueror entered the city he rode straight to Hagia Sophia and immediately ordered it to be converted into a mosque. Nor does it seem surprising that when he saw it finished in 1532, Justinian should have exclaimed: "Oh Solomon, I have outdone thee".

There are said to be more than 1,000 mosques in Istanbul and they dominate the city, especially the Blue Mosque and the Suleymaniye, the masterpiece of Sinan, the Christian Wren of Istanbul. The frescoes and mosaics of St Saviour in Chora are brilliant and more memorable. Equally memorable is the famous Bazaar, packed with thousands of shops, covered in hundreds of domes, strewn with electric cables even more lavishly than the rest of the city.

It is a scene of intermingled grandeur and decay. Inside the Byzantine land-walls the city was until recently - and still is in some areas - a huddle of timber houses and workshops, lanky framed buildings covered in grey planks, with jettied floors reaching out and decorative barge boards along the eaves and gables.

But it was those handsome walls slinking up and down the slopes of the hills that told me most about the fate of Byzantium and took me back to Steven Runciman's small but masterly book on *The Fall of Constantinople*. From the moment I read it in 1965, its ending has remained in my mind - that whatever we may have forgotten about the great city, "in the villages men knew better. There they remembered the threats that had been composed when news came that the city had fallen, its pride and its apostasy, but fighting a heroic battle to the end. They remembered that dreadful Tuesday, a day that all true Greeks still know to be of ill omen; but their spirits tingled and their courage rose as they told of the last Christian Emperor standing in the breach, abandoned by his Western allies, holding the infidel at bay till their numbers overpowered him and he died, with the Empire as his winding sheet".

Patrick Nutgens

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Horses for courses: Leicester Polytechnic students took to the saddle to deliver a protest to Mr Nigel Lawson, Chancellor of the Exchequer, at his home in fox-hunting country.

NUS plans more disruption

by David Jobbins
Further disruption of universities and colleges in protest at last week's grant announcement has been promised by the National Union of Students.

Mr Phil Woolas, its president, said this week that the Government had betrayed young people and their parents. "We will continue to disrupt and protest to bring our message home to Conservative MPs - if they will not let Lawson's proposals we and our parents will vote them out of office."

Thousands of students took part in occupations, lecture boycotts, work strikes and rallies called by the NUS after Sir Keith Joseph, Secretary of State for Education, failed to meet their Monday deadline. But he is to see Mr Woolas on December 3.

An estimated 120 colleges were taking some form of action: some were occupying premises for 24 hours in line with the NUS call, and others were making their own plans. A number of institutions were

closed on Wednesday, including North East London Polytechnic. There was even evidence of action from non-NUS colleges, with Kings' College, London students boycotting lectures.

A chorus of anguish has begun to flow from vice chancellors and others at the proposals. Professor Mark Richmond, vice chancellor of Manchester University, expressed concern to his council. "Some students may well decide that going to university is just not worth the financial candle."

The vice chancellors of the big five civic universities are said to be opposed and the Committee of Vice Chancellors and Principals expressed concern, pointing out that its most recent survey of board and lodging costs disclosed an increase of 7 per cent while grants were to rise by only 3 per cent.

Already one Conservative, Mr Michael Forsyth, MP for Strirling, has indicated he cannot support the changes. Grants details, page 8

Overseas students will get increased Government aid

by John O'Leary

Government aid for overseas students is likely to be stepped up next year in spite of the cuts which will flow from the handstill budget imposed on the Foreign and Commonwealth Office.

Sir Geoffrey Howe, the Foreign Secretary, was due to announce the details of his budget between the aid and diplomatic wings of his department yesterday, but the so-called Pym package, which draws on both sources, is expected to survive intact when detailed cuts are appropriated.

A review of the package is under way and ministers are being recommended to allow a modest expansion of the schemes now in operation. The Pym programme expires in 1985 but the Government is committed to a continuation of the policy.

at Newcastle University, pointing out that 24 foreign government leaders had been educated in Britain.

A new assessment of the effectiveness of current policy, featuring a survey of overseas students' own views, was announced this week. The research programme will be conducted by the Overseas Students Trust and has attracted a grant of £80,000 from the Department of Education and Science towards the £150,000 total cost.

The project will be directed by Professor Gareth Williams, of the University of London Institute of Education. It will include interviews with up to 3,000 overseas students at 20 British universities, polytechnics and colleges.

Representatives of European and Commonwealth governments made last-minute appeals to Britain not to pull out of Unesco this week, as a Cabinet committee prepared to meet to take the decision. But Mrs Thatcher, the Prime Minister, said in the Commons that criticisms of Unesco were abundantly justified, both because of its spending and occasional lapses in its management and because of its attempts to prevent freedom of speech and freedom of the press.

Nobel winners asked to advise on science cash

by Ngaio Crequer

Britain's Nobel prizewinners may be asked to rule on how £20m of extra money for equipment should be shared among selected research centres in the universities.

The money, £10m in each of the financial years 1985/86 and 1986/87 for improving laboratory and equipment provision "in a few carefully-selected centres of research" was announced last week as part of the Government's spending plans.

The proposal was made on Monday by Sir Peter Swinnerton-Dyer, chairman of the University Grants Committee, to Sir Keith Joseph, Secretary of State for Education and Science when they discussed the universities' reaction to the spending plans.

It will now be examined in detail and put to the full UGC next month. The proposal is entirely without precedent as previously university funds have been allocated by UGC decision, sometimes with guidance from the research councils.

But Sir Peter feels that in this instance the UGC is not technically competent and the research councils are interested parties.

"It has to be done by people of the very greatest academic standing. The choice of which research groups to support must be made by people beyond question at the top of the tree," he said.

"The money is intended to bring a limited number of research groups up to the highest level of provision. Active British Nobel prizewinners fit the bill," he said.

The money will go to research centres within departments and it is likely that about 20 would benefit. The UGC would probably lay down some initial criteria.

There are only about 20 British Nobel prizewinners still active in this country. Some, such as Sir John Kendrew (chemistry) and Sir Andrew Huxley (medicine) are still prominent in academic or scientific affairs. About half a dozen are retired.

Sir Maurice Shock, deputy chairman of the Committee of Vice Chancellors and Principals said: "From the point of view of the universities the present arrangements by which the equipment grant is distributed are well-trying and we would need a good deal of persuading if these were to be altered."

"I have nothing to say against Nobel prizewinners but I think that is clear

enough," he said.
Ms Diana Warwick, general secretary of the Association of University Teachers said: "It is a rather coy view of the universities that the only way you can determine where additional resources might go is by asking people who know a lot about one subject but do not have much expertise outside that area."



Jean-Paul Sartre's phoney war, 19

New v-c for Hull

Dr William Taylor, principal of London University since August last year, is to succeed Sir Roy Marshall as vice chancellor of Hull University. Dr Taylor, aged 54, was previously director of the Institute of Education. This year he became chairman of the Council for Accreditation for Teacher Education.

After grammar school and the London School of Economics he became a teacher, deputy headmaster, lecturer in education and professor of education at Bristol. He has regularly advised the Government and universities on problems of teacher supply and education.

CBI will house new skills agency

by Jon Turney
Science Correspondent

Plans for a new industry-based skills agency run by the Confederation of British Industry's education foundation were confirmed this week.

Fourteen major companies, including Plessey, GEC and IBM, have agreed in principle to back the agency, which will have a director and a small secretariat. The CBI's agreement to find a home for the agency is the product of strong pressure to set up such a group from information technology companies, led by Mr Parry Rogers of Plessey, and an equally strong wish on the Government side not to launch a new quango.

The proposal will be endorsed by the Butler committee on the supply of qualified workers for IT industries when its second report is published in a few weeks' time. It is seen as a promising way of coordinating the "new partnership" between industry and higher education outlined in the

first report in July from Mr John Butcher, under-secretary at the Department of Trade and Industry.

Speaking to the House of Lords Select Committee on Science and Technology this week, Mr Butcher said the Department of Trade and Industry would not put any money into Cranfield Institute director Sir Henry Chilver's proposal for a private information technology institute in Milton Keynes. He said the department had endorsed it, but the DTI wanted to reassess vice chancellors up and down the country that the Chilver initiative did not preempt the very large resources which should come through the new partnership.

The Lords committee also challenged the emphasis of the first Butcher report on increasing graduate output. Lord Gregson, citing recent visits to Japan and the United States, said that other countries were moving rapidly toward producing new industrial recruits with higher degrees.

He said many Japanese companies were restricting recruitment of technical staff to those with at least a master's degree, and some took on as many as 30 per cent with PhDs. In addition, the large electronics companies generally gave at least a year of in-house specialist training.

The new skills agency will be set up in the hope that companies will commit resources on a similar scale in Britain. It will have a steering committee bringing together companies, government departments and representatives of higher education and will develop a brokerage role between industrial backers and higher education institutions.

Companies considering contributions to higher education like staff secondments, employment of academics on consultancies, or equipment donations will still be seeking matching support from the Government to get the new partnership under way.

Letters to the editor

Tenure: another view from Scotland

Sir, - In Olga Wojtas' account of Professor Walker's article on tenure of office (*THESE*, November 16) she attributes to him the view that it seems fairly certain that under (Scotts) common law no academics other than professors have ever had tenure. Professor Walker's own words are that in contrast to professors "the situation of lecturers... and other para-academic staff is very different at common law. There is no authority for saying that any of these held 'offices' or ever held *ad vitam aut culpam* and it seems pretty certain that all of these categories have always been employees only".

The Universities (Scotland) Act, 1858 section 12 sub-section 5, gives the university court power "upon sufficient cause shown, and after due investigation, to censure a principal or professor, or to suspend him from his office and from the emoluments thereof... for a period of one year, or to

require him to retire from his office on a retiring allowance, or to deprive him of his office". This power is extended, moreover by the Act of 1889 to apply also to a "university lecturer, assistant, recognized teacher or examiner, or any other person employed in teaching and examining under section 12, sub-section 5" of the 1858 Act. There is clearly a case to be made that lecturers are holders of office.

Professor Walker concludes his article: "It cannot be assumed that any academic does have tenure; if he may have this, it is very uncertain; if the question arises it would be for him to establish that he does have it, and that would not be easy. It may well be accordingly that 'tenure' is a myth, a belief with no more substantial foundation than that hitherto no person seems, in fact, to have been dismissed from an academic post save for *culpa*. If this is so opposition to the proposed

abolition of tenure is on a very shaky foundation."

He also writes, however, that a court of law might hold that a person was not dismissible before retirement age "if satisfied that this represented the shared but unexpressed common intention (not merely belief) of institution and appointee." On satisfactory completion of their probationary period, academics are commonly and expressly said to have "become tenured" or to have joined "the tenured staff". It is beyond question that there is a common presumption or belief that post-probationary staff are tenured. As to intention, when representatives or institutions talk of "tenured staff" it is not easy reasonably to construe intention in any way other than that such staff have tenure.

It seems reasonable to conclude, therefore: (i) that as regards tenure professors, principals and lecturers are indistinguishable; (ii) Professor Wal-

ker's view that no tenure exists (even possibly for judges) seems tenable only on the narrowest interpretation of "tenure", and on other conditions that may not hold.

Finally, Olga Wojtas should have mentioned Professor Walker's view that "if at common law a professor or lecturer were dismissed short of retirement age on grounds other than *culpa* he would have a claim against the institution for damages for wrongful dismissal", and that in present conditions the assessment of damages in respect of loss of earnings could be "very expensive for the institution". An academic of 43 years at the top of the lecturer grade would, on being made redundant, lose earnings of about £300,000.

Yours faithfully,
SCOTT MEIKLE,
Department of Philosophy,
Glasgow University.

Statistical omission

Sir, - Your clear and accurate report (*THESE*, November 9) of the Royal Statistical Society meeting of November 6 contains one major omission, namely the principal point of Professor T. M. F. Smith's paper. This was simply that the revised Department of Education and Science projections are now broadly in agreement with the major conclusion of the RSS working party (notwithstanding the multiplicity of minor differences outstanding). Explicitly:

● The revised version of the DES now shows two variants which even at the "demographic trough" of 1995/96 lie either side of the 1980/81 values;
● The RSS working party's principal conclusion was that "relative to 1980/81, far from being a decline, there is likely to be an increase in the demand for higher education throughout the remainder of this century".

This is broad agreement. The University Grants Committee's advice to the secretary of state by way of contrast declares this conclusion of the RSS working party to be so ill-founded that "we do not think it deserves detailed consideration".

Mr Wakefield of the DES in his contribution was careful to point out, inter alia, three things.

● The DES projections are not forecasts. They are estimates of the implications of current policies;
● The 30 per cent demographic drop is going to hit the compulsory secondary education sector. Higher education is different because of the counter-acting sex and social class differentials.

● The DES methodology differs in several respects from that recommended by the RSS working party. The UGC have been left with egg on their faces. This will wash off. Unfortunately, so have the editors and journalists of responsible newspapers.

This is more serious because the general public have now been seriously misinformed. The misinformation will be reinforced by the dramatic and worrying news of effects of the demographic decline on the secondary sector. Higher education is provided by the willingness of the electorate to invest in the children for their immediate good and for the future good of the nation. The point of my contribution (well reported in your pages) was to stress that we now have to correct the misinformation of the public. This is not easy.

Yours faithfully,
D.E. BARTON,
Professor of Statistics,
Queen Mary College,
University of London.



Orage extra

Sir, - I was delighted to see Mr. O'Connell has discovered the work of A. R. O'Connell (*THESE*, November 16). His career was remarkable, but ununsung - no Mr. O'Connell's welcome piece would have been enriched if he had read the carefully researched account of O'Connell (above) and his associates (including his interesting and nearly ununsung girlfriend Beatrice Hastings, later the mistress and frequent model of Modigliani) which was published only six years ago by Faber under the title *Lives and Letters*.

Yours faithfully,
JOHN CARSWELL,
6 Prince Arthur Road,
Hampstead,
London N.W.3

Copyright law

Sir, - As a result of strict interpretation of copyright legislation many lecturers, we are sure, will have experienced difficulties in using journal articles for teaching purposes.

While appreciating the necessity for copyright law, especially concerning books, we consider the situation with respect to journals and periodicals to be unsatisfactory for the following reasons. First, it is academics who supply the majority of published papers, but who receive no financial reward for so doing. Second, where copyright is held by learned societies or institutions it is surely incompatible with their avowed aims of encouraging and disseminating learning to charge educational establishments for the right to photocopy for educational purposes.

We would therefore encourage all our colleagues who are members of societies or institutions which hold copyright to demand that they adopt a policy more compatible with their charters. This, we suggest, might be along the following lines. "That the society or institution should, upon request from an appropriate educational establishment, grant permission for them to make, free of charge, multiple copies of journal articles. This to be on the condition that the establishment is a subscriber to the journal, and that copies are to be used for teaching or research purposes only, and may not be resold."

Yours faithfully,
P. J. MAKIN, J. M. SMITH,
I. T. ROBERTSON, R. J. TALBOT,
C. J. COX
Department of management sciences,
University of Manchester,
Institute of Science and Technology.

Communication

Sir, - Have I been fortunate with my teachers and colleagues because my experience is totally contrary to that of A. J. Brighshaw (*THESE*, November 9) who wrote "really good communicators are hardly ever found in the ranks of successful researchers"? It took me less than a minute to name, from personal experience, 20 biologists who were excellent communicators and teachers and also first-class researchers. I needed a little more time to get 40 names than 20 minutes to list

60, although the full list includes people who started as physical scientists and mathematicians and turned to biology later.

Do we biologists communicate better than mathematicians? I ask because in his letter Dr. Brighshaw has reiterated the opinion of the chairman of the University Grants Committee (also a mathematician).

Yours faithfully,
DAVID A. JONES,
Department of Plant Biology and Genetics,
University of Hull.

PhD completion

Sir, - The letter from Dr. Donald Bligh (*THESE*, November 9) stresses the balance on thought about PhDs. The preoccupation with dates of completion may be understandable in terms of funding, but the human and educational questions must be 1) is the degree complete? 2) is the work of appropriate standard? If, as appears from Dr. Bligh's statistics about 70 per cent of graduates complete, universities are not doing too badly, as the remaining 30 per cent while still allowing room for approval, may not be complete for a variety of reasons, by no means all of which are academic.

Masters and doctoral degrees are not competitive in the sense that initial degrees are. It is surely more important to have a good piece of work done and a course of study formally completed rather than a failure of attainment and/or a marginally satisfactory piece of work done? In my view, it is important not to let candidates submit their thesis until one knows they are going to pass. The question of funding is a separate issue.

Yours faithfully,
P. HAVARD-WILLIAMS,
Department of Library and Information Studies,
University of Loughborough.

Sum mistake?

Sir, - Perhaps one of your readers would explain to me why Data Processing is, in Department of Education and Science, and University Grants Committee terms, considered as a subset of mathematics.

Yours faithfully,
S. D. CARTER,
Systems Manager & Senior Systems Analyst,
University of Sussex.

Coming back

Sir, - I have heard that one or two academics who have accepted substantial sums of public money to take premature retirement are now seeking to reenter university life on full pay. I should be surprised if this was the intention of Parliament and the Secretary of State for Education when he authorized such a scheme and I should be interested to know what views the Association of University Teachers has on this attempt to have it both ways. Apart from anything else it diminishes job chances for everybody else in a more or less static profession.

Whether or not such conduct is for the moment legal, it would surely seem to many people reprehensible. There is an important question of public policy at issue.

Yours,
A.M. DAVIES,
Acting joint head of the English Department,
Royal Holloway and Bedford Colleges,
University of London.

Science output

Sir, - The figures, published by the Science Policy Research Unit at Sussex University, (*THESE*, November 9) make interesting reading but can in themselves only provide a partial view of the state of British scientific research.

If the researchers at the unit are using the Institute for Scientific Information's science citation index as the source of data for their analysis then their figures do provide useful information on the proportion of British publications appearing or being cited in journals and other materials covered by that service.

However, the significance of the figures does depend on the comprehensiveness of the service's coverage of journals and other materials in the disciplines concerned, and also on the procedures involved in the selection of material for inclusion in the service. It would be particularly important to clarify whether there has been any change in policy or practice in coverage or selection over the period studied.

The figures can only provide a partial view in another sense. If there has been a decline in the proportion of British publication in the journal literature of the disciplines involved - this cannot be taken as the sole indicator of the health of the research activity within those disciplines. Perhaps there has been a move towards dissemination of research findings through working papers, laboratory memoranda, or unpublished research reports - which may not appear as journal articles or be widely cited.

Examination of these issues might complement the bibliometric work so

Pool share out

Sir, - I recently called for the redistribution of institutions of higher education in the public sector as "local authority universities". The case for change of name advances following the last meeting of the Technical and Data Group of the National Advisory Body when exemplifications of the distribution of the Advanced Further Education Pool for 1985/86 were considered.

Once again the NAB proposes to distribute the AFE Pool in three blocks: to polytechnics; major other maintained establishments (major OMEs); and minor OMEs.

A number of the major OMEs had a substantial claim to be treated *pari passu* with the polytechnic under the establishment of NAB. Each major OME currently receives approximately £250 per full time equivalent on average less than polytechnics. This unjust disparity results from the failure of the NAB and the Department of Education and Science to reauthorize any institution into the polytechnic group for funding purposes.

If any major OME were to merge with a polytechnic under the present rubric of the NAB the enlarged institution would automatically secure the polytechnic level funding for that part of the new institution which formerly was not in the polytechnic group for funding. Yet the Technical and Data Group was advised at its last meeting that it was unlikely that reauthorization of any institution for funding purposes would be politically (sic)

achievable for 1985/86.

While no advice will be proffered by the Technical and Data Group to the next meeting of the NAB board to the prescribed level (exemplified at £1,270 and £1,315) some members were ready to maintain the gap of approximately £250 per FTE as between polytechnics and major OMEs on the basis that polytechnics cannot or should not be required to take cuts in real terms - a point of view that presumably is based on the presumption that an institution which survives on a diet at least one-fifth less nutritious than in a polytechnic will be able to maintain its academic health.

The facts are that this will not be the case because the major OMEs must have full protection of their unit of resource in real terms in order to maintain the present level of provision and some require an increased unit of resource if they are to be able to guarantee a continuing level of acceptable quality.

There seems to be little justification for the NAB to await the development of the formula which will determine whether any of the major OMEs should be reauthorized for funding purposes as polytechnics. I believe the committee of NAB should be asked to make a judgment as to whether any of the major OMEs should forthwith be categorized for funding purposes as polytechnics for the financial year 1985/86.

Yours faithfully,
NEIL MERRITT,
Halling College of Higher Education,

ILEA budget is geared for growth

by Felicity Jones

The growth of higher and further education in London will be halted immediately if the Government rules that the Inner London Education Authority's budget is illegal.

Polytechnics have experienced a large growth in student applications with more than 10 inquiries for every place. Inquiries to the Polytechnic of Central London were 60 to 70 per cent higher than last year while two other polytechnics were up by 25 per cent. The authority believes many more students are making polytechnics their first choice.

The threat was disclosed at the ILEA's meeting this week which fixed a budget £57m above the Government limit. This budget could become illegal in three months' time should no compromise be reached.

The draft estimate, passed with the support of the Social Democratic Party members, makes the ILEA the first Labour-controlled authority to challenge the Government's Rates Act. They assume that the amount received from the advanced further education pool will rise in line with pay and price increases.

The authority has committed itself in the renegade budget to increasing the £15.5m set aside for "topping up" the pool allocation this year by £800,000 in line with inflation.

A warning came that any change in the level of funding would significantly affect the authority's spending and would have a detrimental effect on programmes connected with special policies such as engineering courses for women and access of the countryside. Non-traditional opportunities provided by the polytechnics including part-time evening courses, non-standard entry for mature students and

initiatives for black students would be a prime target. Concessionary fees which are to be maintained at £1 for the eighth year running and £1 for the doubling of enrolments in the last four years from unemployed students could also be axed.

Mrs Frances Morrell, the ILEA's leader, said the authority had arrived at a point of crisis in its relations with the Government, which did not have a mandate to reduce education spending.

The authority sees the 3,000 letters of support and the 78 per cent MORI poll against spending cuts from inner-city dwellers as a mandate to campaign on its proposed illegal budget against spending cuts.

The SDP group endorsed the continuation of the current level of funding and noted the ILEA education officer's advice that even a £20m saving would have a serious effect on services. It asked that a summary of the consultation exercise should be sent to Sir Keith Joseph, the Secretary of State for Education.

Sir Keith said the authority had "entirely failed to address the clear fact that expenditure is out of proportion to that of all other education authorities with comparable problems".

Conservative authority members quoted an Audit Commission profile which, out of a group of 12 local authorities dealing with similar problems, highlighted the ILEA as the highest spender. They called on the authority to apply for derogation and appeal against the Government expenditure levels. The ILEA has already resolved not to do this and says it is the only body charged by law to determine education needs.

Leader, back page

Updating money doubled

The Government is to double the funds for the Professional Industrial and Commercial Updating Programme (PICKUP) to nearly £3m by next year.

Mr Peter Brooke, minister for higher education, announced this during the launch of the Government's Adult Training Awareness Campaign, hosted by the Confederation of British Industry in London this week. The campaign which is being spearheaded by the Manpower Services Commission aims to encourage employers to invest more in training and retraining staff.

He said that the extra money would substantially increase the number of schemes under the programme of Local Collaborative Projects, jointly managed by PICKUP and the MSC.

So far this programme has set up a dozen large projects and about 70 smaller ones.

The DES will announce next month which local authorities have successfully bid for PICKUP funds. So far 90 bids have been received.

Mr Tom King, Secretary of State for Employment said that originally he had considered an awareness campaign as the last refuge of the bureaucratic, but he now realized that this was the only way to make the country aware of what our training and retraining needs were.

Staff and students at Paisley College of Technology are concerned over the discovery that a student is a leading member of the British National Party, a breakaway group of the National Front.

But they are determined to avoid turmoil like that at the Polytechnic of North London over National Front student organizer Mr Patrick Harlington.

Paisley's students association has launched a campaign against racism, but Mr Liam McLaughlin, the president, said: "This is a campaign against racism in general, not against one person. There is nobody walking out of classes, and there is going to be no boycott or pickets."

The college admits that over the past year there has been a proliferation of racist and sectarian posters and stickers in the college. It was recently discovered that Mr Eric Brand, now in his second year of a social science course, was a member of the British National Party.

Mr McLaughlin said posters had appeared showing a goliath figure beating up an elderly woman, with the slogan "Repatriate muggers". Other graffiti included "Smash the IRA" and

"Ulster is British", and gave a BNP contact box number. However, he stressed there was no evidence linking Mr Brand with the material.

The college said it was aware of Mr Brand's political affiliation, but this particular student offends the college rules and regulations by actively campaigning on campus, we will treat him the same as anyone else."

But the president of Glasgow University's students representative council, Mr Malcolm Clark, said Mr Brand had given out racist material during a university debate.

Paisley concern over racist activity

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Training proposal revealed

by Patricia Santinelli

Public sector teacher training places would increase by three times as much as those in universities for the rest of this decade under initial plans prepared by the Government's advisory body on teacher training.

The proposals, which the Advisory Committee for the Supply and Education of Teachers describe as tentative, still have to be discussed in committees this week and next month, but if agreed would affect allocations to institutions from 1986 to 1989.

Universities could also be badly affected if the Government forces a reduction in secondary teacher training of some 1,000 places to keep in line with demand. These would have to come entirely from the postgraduate route, and in a limited number of subjects. The universities have twice the provision of colleges and polytechnics.

Under the proposals, the major increase would be in the primary BEd and PGCE, but there are also plans for a substantial increase in the number of subjects at secondary BEd to avoid future shortages.

Its plans are for an increase in primary training in the public sector of some 2,200 intakes via both the PGCE and BEd between 1986 and 1989, while the universities would only increase their intakes by some 650 during the same period.

The committee says the increase is needed not only to meet the implications of Government policies but to avoid a shortfall in the number of primary teachers which would occur in the middle of the next decade unless targets are increased.

ACSET estimates that with enhanced requirements some 12,000 newly trained primary teachers will be needed by 1994. Without enhancement, output will still need to rise to over 8,000 by that date.

The committee has decided not to seek the entirety of the increase from teacher training institutions because it believes they could not cope with such an expansion without standards being badly affected, or without more resources being allocated.

The planned increase in the secondary BEd, which was badly cut back in the 1982 round of allocations, would be concentrated in the public sector. ACSET recommends that colleges and polytechnic intakes should be increased by 610 leading to a total intake of 2,200 by 1989. Universities would only be required to increase their intakes by 330 by the same period, a rise of some 200 places.



Growing from strength to strength

Two birthdays are being celebrated at the Cannon Aquarium and Vivarium at Manchester University. The first is that of the aquarium itself, which was opened 20 years ago and named after the late Professor H. G. Cannon, who held the chair of zoology.

The second is that of this Bengal monitor lizard, which arrived at the aquarium via Manchester International airport. The lizard, seen here with aquarist Mike Graham, was

impounded by customs officials as an endangered species.

When it first arrived at the university, the lizard measured a mere five inches. Now celebrating its third birthday, this toddler is five feet long, exhibiting what museum director Dr Alan Warhurst describes as "a remarkable rate of growth".

The aquarium holds world records for the rate of growth of its reptiles and an 18ft python, a 10ft anaconda and an 8ft alligator are all members of the family.

Cambridge to go it alone on tenure

by David Jobbins

Cambridge University is to draw up its own plans for compulsory redundancy of tenured academic staff to stave off the threat of Government-appointed commissioners interfering in its internal affairs.

The threat by Sir Keith Joseph, Secretary of State for Education and Science, to legislate on future tenure to permit redundancy on grounds of financial exigency has spurred the university to consider ways of meeting the Government's objectives while retaining total control.

But the plan is to be opposed by the Association of University Teachers. Its deputy general secretary, Mr John Akker, said: "We regard this as of national importance. The local association is in close contact with national level and we shall be opposing it."

A report is to be prepared for the council of the senate setting out ways in which the university's statutes can be changed to allow for redundancy in the event of a general reduction in funding, the reduction or loss of funding for a specified area of academic work, and where continuation of an area of work is difficult to justify on academic grounds.

The university disagrees with Sir Keith's view that his proposals for legislation pose no threat to academic freedom. Instead it believes that the best protection for the freedom of academics to work in speculative or controversial areas is for control over staffing and financial issues of this nature to remain firmly in the hands of the university's own decision-making bodies.

It also feels that changes made through its own procedures are more likely to suit its circumstances than if they are imposed from outside.

Ball cautious on university status debate

Mr Christopher Ball, warden of Keble College, Oxford, and chairman of the board of the National Advisory Body, yesterday offered conditional support for the growing campaign to extend university status to institutions in the public sector.

Speaking at a graduation ceremony at Hatfield Polytechnic, Mr Ball said he had been impressed by the arguments for public sector universities and hoped that the Government would consider them seriously. He included "a few major colleges" as well as the polytechnics among those which might be reclassified.

However, he warned that he would not support the move if it was seen as an excuse for slipping the reins of external validation, as a device to allow academic drift away from part-time and sub-degree work, as a step towards the removal of local authority control or a sign of less responsiveness to local and regional employers' needs.

As long as he was satisfied on those counts, Mr Ball said, he would give unhesitating support when and if he came to believe that reclassifying was the most effective way to achieve parity of status and esteem for public sector students.

"It is neither natural nor appropriate to deny to the institutions containing the majority of our students the normal title of institutions of higher education in Britain," he said, adding that the term university was used less grudgingly and with no obvious harm in the United States.

Engineering tests boycotted at PCL

Engineering students at the Polytechnic of Central London have been boycotting tests designed to monitor the performance of two courses relieved last year from threatened loss of validation.

A number of students on the degree courses in electrical and electronic engineering and control and computer engineering objected to plans to include their results from monitoring tests in their final assessment. They felt that preparing for the tests would divert their attention from their continuing studies.

The issue was under discussion yesterday between students and staff in the engineering faculty at a meeting of a liaison group which was one of the innovations introduced to avoid the difficulties which led to the threatened loss of validation by the Council for National Academic Awards.

The CNAA agreed to validate three of PCL's engineering courses for a year but attached stringent conditions, and the engineering faculty introduced revised programmes.

Astronomers step up anti-apartheid fight

Anti-apartheid campaigners among British astronomers are stepping up their efforts to persuade the Science and Engineering Research Council to pull out of the South African Astronomical Observatory.

More than 150 UK astronomers have signed a petition presented to one of the SERC's astronomy committees, calling for an end to the council's £300,000 a year backing for the observatory.

Dr Michael Rowan-Robinson, reader in astronomy at Queen Mary College, London, estimates that between 30 and 40 per cent of all British astronomers have signed the petition. A declaration accompanying the petition says the case for astronomy re-times of pressure on university research grants must be made on its "academic and cultural value. The dec-

laration says such a case is destroyed if condoning apartheid is part of the culture of UK astronomy.

Previous attempts to cut off the British funds to the telescope, which account for a quarter of the running costs, have been defeated inside the SERC. But the organizers of the petition, which has backing from the Association of University Teachers, hope the number of signatures will help sway the decision this year.

The meeting of the Astronomy II committee which received the petition agreed to pass it to the council's astronomy, space and radio board on the grounds that the committee is only asked to make scientific judgments. Two committee members, Dr Rowan-Robinson and Dr John Hough of Hatfield Polytechnic, are also board members. Professor David Southwood

DON'S DIARY

SUNDAY

Lovely morning. Debate whether to correct now-overdue page proofs for book, to draft paper on departmental research policy, tidy up a memorandum on continuing education, or to paint some external windows. Cheerfully discuss this with my wife, and spend remaining daylight hours cursing the inventor of Georgian windows. Start this page proofs in the evening, but can manage only 50: will there be time during the week to polish off the remaining 250. I wonder? End day by re-reading our BA draft degree review document for the next Council for National Academic Awards visitation, which is to be discussed at a polytechnic internal validation committee tomorrow. As part is now Mark III or IV, it's not easy to concentrate.

MONDAY

Validation is quite worthwhile: our external assessor takes a sensible "nuts and bolts" approach, and winks out a few hesitations. No one wanted to talk about staff development or research, which may be a pity after all that careful phrasing. A pleasant lunch with the assessor, spoilt only by a guilty conscience when signing it to departmental hospitality. As we were £3,000 overspent last year, we have to watch the pennies. However, this overpending arose because we were unable to identify accurately our financial position, and therefore magnanimously transferred a mid-year windfall of £6,000 straight into our library fund, so at least some identifiable good came from it.

If we are careful, we should be able to survive this year. Ask assessor how his department controls photocopying. Maybe we can establish individual property rights in what is presently a common property, thereby curtailing the evident over-exploitation? Make note to look up Colin Clark's book again.

Pleasant afternoon spent with a succession of students whose projects I am supervising. As I have a low timetable for this half-term, I apply myself diligently, discussing their drafts and proposals in great detail, with plenty of constructive criticism and animated illustrations. Students become increasingly depressed and lapse into silence. Change tactics with the last one, and tell him tersely that his draft is remarkably poor, with no indication that he has made any effort at all over the last nine months. A lively and useful discussion ensues, which he probably wins on points.

TUESDAY

Bad day. Apart from usual hassles, highlight was a meeting held with National and Local Government Officers' Association representatives over a little local difficulty. We are appointing a new departmental technician, which has been agreed as a 0.7 post, term-time only. Nalogo objects, for reasons with which I have some sympathy: we would prefer 1.0 as well, but these days no one can have what they want. A two-hour discussion terminates with the union announcing that the post will be "blocked". This leaves us in an interview later with prospective part-time MPhil registration student. Excellent student, good topic, all we need is a satisfactory supervision arrangement. This could be difficult, as supervisors acceptable to the CNAU - that is, with two successful supervisions behind them - are thin on the ground in this faculty. Leave work a little depressed.

Write out teaching yoga all evening. I wonder if daughter Joanna would mind if I read her a few page-proofs instead of Fairy Twinklitos? Joanna does mind, the two seemingly having a very low demand substitutability.

WEDNESDAY

Ten minutes before the technician interviews, the local man wonders if the interviews themselves ought not to be blocked by members involved. Great timing. Two panel members examine their consciences, while candidates are warned there will be a 20 minute delay. Coffees all round, and agreement that we go ahead. The candidates are all female: if we appointed a coloured lady, would the union position be untenable? Obviously not. Only three of the four invited turn up, which seems about par these days. Interviews interesting. We rank the candidates, but can do nothing more. Should new graduates really be applying for a 0.7 technician post, I wonder? Rest of day spent fruitlessly trying to identify possible solutions to the "blocking" issue.

THURSDAY

Four hours of academic council: as I arrived only 10 minutes early, I am on the subsidiary table with the poor audibility and late coffees. There are only two items of direct personal interest: one is passed without discussion, and one is redirected to another committee. Quite satisfactory. Calculate that the staff income accrued during the meeting would fund at least two months of a research assistant, or four months of agency typing. Such comparisons are neither relevant nor valid - but interesting.

First seminars in resource economics course later, to allocate topics throughout the year: 25 per cent of student do not turn up, as they cannot find the room (having been here two years). However, at least three show an interest in taking an MSc in agricultural economics, so my colleagues' efforts with them last year were not in vain.

FRIDAY

A good day. Renewed discussion with Nalogo people, with a successful compromise conclusion. The blocking is lifted, and we can go ahead with a 0.7 technician, but not now as term-time only. A phone-call later reveals that at least one prime candidate accepted a job this morning, which somewhat spoils the moment. Most of the day spent with a crisis for our part-time lecturer. It seems that, moving as he is from a university PhD award to about five hours a week teaching for us, he is probably not eligible for supplementary benefit in the period he is paid.

This means that his ten weeks' teaching will have to be spread financially over about 16 to 18 weeks, which means that he is therefore receiving less per week than he would if unemployed. This seems insane, although there is a certain vicious logic about each part of the argument. Phone everyone who might help, and personnel office do great things. By 5.30pm the various suggestions seem to put him back to spreading ten weeks pay over only 12 to 14 weeks, so that he is working five hours a week for perhaps £13 more than unemployment benefit: the poverty trap in action! Quite an incentive. We agree that this is not quite bad enough for him to resign, thank goodness.

SATURDAY

I must get these page proofs finished. The incentive to do so has however been blunted somewhat by my co-authors, who inform me that the publishers rang yesterday to say that they want to charge £28.50 for the book when published in February. As the book has been carefully planned, structured, and written for a small but significant undergraduate market, this is a little disturbing. I gather that the logic is to sell it in hardback at this price, and then produce a paperback for student purchase if it "goes well". I cannot recall hearing of many student books which "went well" at £28.50.

The fact that, if the book is indeed sold at the proposed price, we will end up by having to photocopy bits of it for our own students.

Mike Dunn

The author is acting head of department, department of economics and economic history, Portsmouth Polytechnic.

VAT bill estimated at £21m

by Paul Flather

Universities could end up paying an extra bill of £1.8m and students an extra £19m if Value-Added Tax is imposed on books, as discussed in Treasury circles.

The figures come from a new dossier released this week by the National Book Committee - representing users, distributors, and producers of books - outlining detailed economic, historical, political, cultural and educational arguments against putting VAT on books, journals, and papers.

The committee estimates that if universities and students are to maintain current levels of book purchasing, which it believes are already inadequate, an extra £21m will have to be found. Similarly at least another £6m will be needed by local authorities if school, college and library spending is to be maintained in the face of say 15 per cent VAT.

This would come on top of a 25 per cent fall in university book buying over the last four years, with 350 periodicals cancelled on average by each university library between 1980 and 1983.

Research institutions would have to pay VAT on learned journals and professional and industrial training would also suffer.

The dossier, aimed at allegedly philistine Treasury mandarins, is the

latest in a campaign against VAT on books largely orchestrated by publishers. But it is now also drawing support from authors including Mr Philip Larkin, librarian at Hull University; Dr Anita Brookner, Booker Prize winner; Mr William Golding, Nobel Prize winner for literature; Sir William Rees-Mogg, chairman of the Arts Council; and Lord Thomas, the Conservative peer handling the Centre for Political Studies.

The dossier states that the arguments which proved persuasive in preventing a "tax on knowledge" in 1960, in 1961, in 1966 and in 1972 are equally relevant. In 1960 Mr Gladstone told Parliament that the paper duty was a tax on literature and education and had long stood in "evil odour in this House".

The committee, taking its cue from Mr Gladstone, argues that VAT would hit at the very fabric of a democratic society, restricting education, diversity of opinion, economic development, and cultural stimulation. Some 45 per cent of books supplied are said to be school, university, reference, and professional books, with children's books accounting for 10 per cent more of the market.

The dossier also points to attitudes in other European countries to back its case: Ireland has no VAT on books, Italy has a 2 per cent rate, Belgium, the

Netherlands, France, and Germany have "low rates". Those with high rates are not mentioned.

The committee dismisses any proposal to separate books of "non-educational value" for taxation. It would lead to absurd judgments, it says in the dossier, with fiction and poetry, classical or popular "just as important to understanding, literacy, and to culture as serious works for formal education".

In all, VAT on books would lead to higher prices, less reading, fewer bookshops, falling book exports, a decline in the use and spread of the English language and a much smaller yield than the Treasury expects, it says. The committee estimates that lost revenue including £21m for students and universities, will total £40m which must be offset against the projected £85m yield.

The threat to impose VAT on books has provoked a large number of motions for debate at the AUE's winter council in York next month. Similar attacks on the reported proposal from Bradford, Leeds, Aberdeen and the Open University are likely to be composed into a single motion which will undoubtedly be passed.

A further motion from the University of Surrey calls on the Government to free the universities from all VAT liabilities.

Scots union redraws its boundaries

by Olga Wojtas

Scottish Correspondent

The Scottish Further Education Association is dead; long live the Scottish Further and Higher Education Association.

SFEA members voted at their annual general meeting in Stirling last weekend to change their name in anticipation of Napier and Glasgow colleges of technology becoming central institutions next session.

The two colleges, which are currently run by local authorities, contain around a fifth of the association's total membership, and it was decided the change of name would emphasize the union's involvement in both advanced and non-advanced further education.

The association also voted to seek an urgent merger with Scotland's two other higher education unions, the Association of Lecturers in Scottish Central Institutions and the Association of Lecturers in Colleges of Education in Scotland. The three unions have for some time formed a federation, which has also sought to attract the further education section of Scotland's largest teaching union, the Educational Institute of Scotland.

However, the EIS further education section, whose membership exceeds the combined membership of the others, has shown more interest in takeover than a merger. The SFEA has now decided that it should concentrate on building up the federation.

The association also agreed to press with the other federation members for an independent salary review.

A major concern at the annual meeting was the Government's 16-18 action plan, innovative modular courses which will lead to a new national certificate. Lecturers criticized the Government for its "unseemly haste" in introducing the plan in August before all the modules had been prepared or the validation procedures decided.

They described themselves as dispirited and overburdened, and many staff reported that they were bewildered as to how to handle the modules. It was vital for the Government to release additional funding for the action plan if it was to be a success.

Conference places

There are still a few places left for a one-day conference on the learning needs of non-traditional students to be held on Saturday December 1, at the Polytechnic of North London.

The conference is jointly sponsored by the polytechnic and The TES. The fee is £10. Applications should be made to Dr Stan Parker, Department of Applied Social Studies, Ludbrook House, 62-66 Highbury Grove, London N5 2AD.



Mr Peter Brooke, minister for higher education, makes a presentation to Claire Botcherby, director of the computer directory on vocational short courses. The directory, which logs over 2,000 courses and aims to grow to 10 times that size, was developed through the Department of Education and Science's professional, industrial and commercial updating programme. It will provide employers with recent information on work-related short courses.

Poor chance of access for vocationally qualified

by Patricia Santinelli

An unpublished report by the Further Education Unit showing that very few students with vocational qualifications gain access to higher education, could be embarrassing for the Department of Education and Science.

The FEU commissioned the research, from the National Foundation for Educational Research, after receiving a request from the department for some information about the actual state of play on transition from vocational further education to higher education.

This followed substantial correspondence between senior DES officials and Mr Geoffrey Holland, director of the Manpower Services Commission, on the various links between different qualifications and what progress had been achieved in gaining access to higher education via non-traditional routes.

Now it appears that neither the DES or the Manpower Services Commission is any longer interested in the information, but the unit's board has decided to go ahead with publication.

The study is based on a sample of 30 universities, 24 polytechnics and 10 colleges. It concentrates on access to courses in physics, civil and mechanical engineering as well as business studies for holders of ordinary and higher national certificates and diplomas, and those with Business and Technician Education Council qualifications.

It shows that although such qualifications were accepted by most institutions in their general requirements instead of A levels, individual departments often set their own different standards.

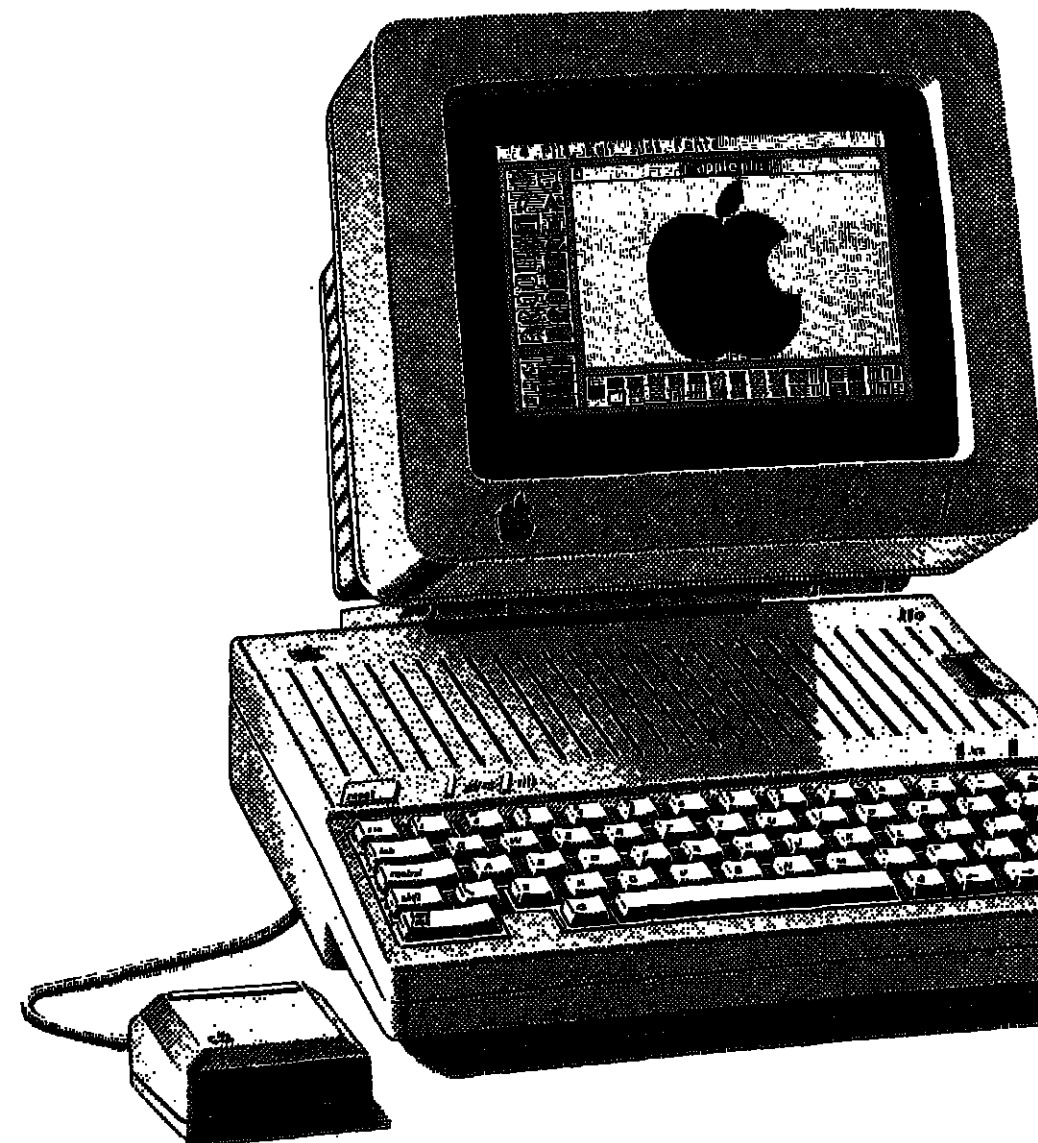
According to figures presented in the study, not only is the proportion of students with vocational qualifications going into higher education very low now but it has either declined or risen only marginally since 1977.

Yet as the report points, there is plenty of detailed evidence that holders of ONC and OND qualifications perform as well if not better than A level students on degree courses.

For the polytechnics and colleges, Council for National Academic Awards statistics show that in 1982/83, a total of 5.7 per cent ONC/D students entered first degree courses in art and design, art and social studies, education, interdisciplinary work, science and technology. For holders of higher national certificates and diplomas, the total was 5.6 per cent, a rise since 1976/77 when the percentage was 2.7.

In the case of universities, University Central Council for Admissions statistics show that the proportion of ONC/D candidates gaining admission to first degree courses was 2.8 per cent in 1982, a rise of 1.3 per cent since 1977. The proportion of HNC/D candidates gaining admission has risen from 0.8 per cent to 0.9 per cent in the same period. All figures are based on a 10 per cent sample.

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Overseas continued

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Expatriate staff will be entitled to contract addition at 30% of basic salary and gratuity at 25% of basic salary plus contract addition on successful completion of a two year contract.

Applications with names and addresses of three academic referees to the Assistant Registrar (Academic), University of Botswana, Private Bag 0022, Gaborone, Botswana.

(17222)

UNIVERSITY OF BOTSWANA

Invites applications for the post of Professor of Chemistry. Applicants should have a Ph.D in any branch of chemistry and extensive experience of university level teaching, research and administration over at least ten years. The appointee will head the Department of Chemistry and take a full part in the teaching and research activities of the Department.

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Closing Date: November 30, 1984

Expatriate staff will be entitled to contract addition at 30% of basic salary and gratuity at 25% of basic salary plus contract addition on successful completion of a two year contract.

Applications with names and addresses of three academic referees to the Assistant Registrar (Academic), University of Botswana, Private Bag 0022, Gaborone, Botswana.

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organizational dynamics of policy
making, budget processes,
and inter-governmental relations;
3. social planning, the analysis
and evaluation of social policies
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4. economic geography, with
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These positions are advertised
pending budget approval
and in conformity with
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all appointments who are
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Candidates should send
curriculum vitae and
statements of teaching
experience and research
interests, plus the names of three
referees to Professor J. Britton,
Chairman, Department of
Geography, University of
Toronto, M5S 1A5, before
February 28, 1985.

17221

Please

Note

Classified

Advertisements

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Prisoners
'must have
education'

by Maggie Richards

New pleas have been made for drastic reforms in the penal education system, to ensure the right of every inmate to tuition and to forge closer links with educational institutions beyond prison walls.

The calls for changes were reiterated by speakers at a conference on prison education held last weekend at Stoke Rochford Hall, Grantham, and hosted by the National Association of Teachers in Further and Higher Education.

The association's own contributor, Mr Derek Betts, denounced underfunding of the prison education service. "We spend £13m a year on 78 institutions and 45,000 inmates. The total budget is about equivalent to the Government grant to just one small polytechnic," he said.

Until new legislation determined the basic purpose of imprisonment and established fundamental standards, changes could not take place, he added. Prisoners' educational needs should be assessed and accommodated throughout their detention.

Mr Keith Scribbins, tutor with responsibility for penal education at Coombe Lodge further education staff college, told the conference educationists had to support reformist attitudes to imprisonment as opposed to punitive interpretations.

"If the purpose of imprisonment is to punish and to deny civil rights in addition to the right of freedom, education has little role to play," he declared.

"If the purpose is to reform and to encourage access to these civil rights which in themselves produce citizens who do not resort to the kind of behaviour we call crime, then education and training is essential."

He suggested new legislation to impose a statutory duty on either local education authorities or the Home Office to provide education within prisons.

There was a need for integration of the system with external education services before incarceration, during imprisonment and following release, a move which would involve a radical reappraisal of the organization and training of staff.

AUT to tackle
sexual harassment

by David Jobbins

University lecturers will be encouraged to stamp out sexual harassment on the campus and warned against sexual advances to students.

A draft code of practice aimed at protecting both staff and students is to be debated at the winter council of the Association of University Teachers next month in York.

It has the active support of the executive, which is convinced that sexual harassment is a real problem in universities despite widespread assumptions that academic communities are in some way immune.

Under the code, local associations will be advised to negotiate a policy with university authorities for agreed definitions, procedures for handling complaints, and if necessary a review of existing grievance and disciplinary procedures. It also sets out a six point guide to university teaching practice which has already been adopted by the AUT branch at Sussex University.

It declares that:
● Students and staff should be free to pursue their professional and academic activities without any kind of overt or covert harassment;
● Sexual advances or requests in teaching or supervision must be avoided;

● Even friendly or humorous references by a tutor to students' personal or physical characteristics are out;
● Sexism in teaching and language

should be avoided;
● Tutors should be aware of the tensions within the groups where one sex is in a minority;
● Students should be told of agreed procedures for sexual harassment cases.

The union admits that it cannot be precise about the size of the problem. Most frequently it is women who are harassed by men, although there are serious examples occurring between the same sex, or even of men by women.

The nature of the sexual harassment varies, according to the union. "In the context of a university it is often verbal: comments on a person's physical appearance, persistent innuendo, kindly or humorous remarks of a personal nature which may be presented paternalistically but which make the recipient feel uncomfortable or singled out."

University women receiving unwelcome sexual attention will often withdraw from "sexually-charged" contacts, avoid a common room, or try to transfer against her long-term career interests.

In teaching, sexual harassment betrays the special bond between teacher and student and has damaging implications for individual students and for the whole academic community.

Sometimes, the AUT says, students misinterpret lecturer's words or actions, or the lecturer is unaware.

The National Union of Seamen will come under pressure today to end industrial action which other unions fear threatens part of a £9m research project into the disposal of radioactive waste.

The Society of Civil and Public Servants has written to the NUS saying there is a difference between scientific research and dumping nuclear waste at sea. It wants the seamen to lift their boycott of the Natural Environment Research Council ship Discovery, and allow the experiment to go ahead.

The matter is due to be discussed at today's lunchtime meeting of the TUC's radioactive waste disposal sub-committee. The SCPS expects support for its views from other civil service unions, whose members include

Pressure over seabed boycott

NERC scientists.

The £8.8m research is sponsored by the Department of the Environment which has a £1.1m contract with the NERC to investigate the possibility of placing high level radioactive waste beneath the sea bed. A spokesman said the seamen's action had put the research project at risk.

The NUS is refusing to take part in the tests, which involve dropping torpedo shaped sensors called "penetrators" in mid Atlantic waters three and a half miles deep. They are designed to fall under their own velocity and bury themselves 100ft in silt.

The NUS said the disposal of high level waste at sea contravenes international law, having been banned at the London Dumping Convention.

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Cambridge reverses trend

by Ngaio Creqeur

The number of successful candidates from the state sector at Cambridge University fell from 47 per cent to 42 per cent in 1984, reversing the steady trend of recent years.

The fall is also shown in the number of applications were from the state sector (schools, colleges of further education and equivalent Scottish and Irish schools) compared with 55 per cent in 1983.

Conversely, there has been a rise in the numbers of applicants and successful candidates from independent schools. Last year, 36 per cent of applications were from independent schools and they accounted for 46 per

cent of successful candidates. This year the equivalent figures are 39 and 49 per cent.

Last year, for universities generally, 70 per cent of applications were from the state sector and this sector accepted for 67 per cent of the acceptances. Sixteen per cent of applications were from independent schools and acceptances accounted for 20 per cent.

Just under half all applications to Cambridge this year, 46 per cent, came from students living in Greater London or the south-east. Of successful candidates with three or more A levels 77 per cent had a Universities Central Council Admissions score of 14 or 15 (5 points for an A, 4 for a B etc).

This year there was an increase in the number of conditional offers made. Some 20.5 per cent of candidates are now admitted on conditional offers with 16.3 per cent of successful candidates accepted on the basis of A level results already obtained 36.8 per cent now gain entry without being required to take the Cambridge Colleges Examination.

Cambridge accepted no candidate whose first choice was Oxford, nor did Oxford whose first choice was Cambridge. The proportion of successful women candidates has shown a marked increase from 33 per cent in 1983 to 36 per cent in 1984.

Undergraduates: statistics of applications and acceptances for October 1984, Cambridge University Reporter, November 21 1984. Price 35 pence.

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Scots college
wants to be
a university

by Olga Wojtas

Faile College of Technology, which has been discussing a potential merger with Stirling University, now wants to become a university in its own right.

In its response to the Scottish Tertiary Education Advisory Council, which is currently carrying out a review of higher education, Faile calls for a new group of "public sector universities" to stand alongside traditional universities.

There has been unresolved debate for many years over the universities' lack of direct accountability, says Paisley. It argues that a few higher education institutions should be given chartered status becoming public sector universities which are fully accountable through the Scottish Office.

These new universities would have a separate role from the present universities, and would concentrate on vocational courses, maintaining close links with industry, commerce and the community.

Paisley does not go so far as to recommend that the present universities should come under Scottish Office funding, although it hints at this.

Other responses are not so coy. Napier College, which is shortly to become a central institution, says that all funding for Scottish higher education should come through a new Scottish grants committee. It argues that there is a strong case for equality of resources across all sectors of higher education and that there would be advantages in having a common unit of resource.

The employers' organization, the CBI Scotland, and the lecturers' associations in both central institutions and colleges of education, all call for university funding to come through the SED.

The Association of Lecturers in Scottish Central Institutions urges a Scottish advisory body with financial powers for public sector higher education even if the Department of Education and Science and University Grants Committee refuse to allow the Scottish universities to come under SED control.

Strathclyde University has broken ranks on a joint universities statement by recommending a Scottish grant council, which could also embrace the central institutions.

The maintenance of academic standards, management of shrinking resources and the need for innovation are the themes of the ninth Royal Festival Hall conference in London next Friday.

The conference is organized by North East London Polytechnic and will be opened by Mr Peter Brooke, undersecretary for higher education.

Other speakers are Mr Roy Butler, management consultant with Gray MSL; Mr Michael Shattock, registrar at Warwick University; Mr J. C. McKee, rector of Liverpool Polytechnic; Mr T. Burgess, dean of continuing education at NELF; Professor Frederick Crawford, vice-chancellor of Aston University; Dr Harry Law, chairman of the Committee of Directors of Polytechnics; and Professor Philip Reynolds, vice-chancellor of Lancaster University.

Standards under scrutiny

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Compulsive medical viewing

Charles Cross and Westminster Medical School in London unveiled an ambitious new television teaching system this week. The interactive distance learning system, built with £940,000 from the Department of Trade and Industry, allows students in any of eight locations to watch lectures or demonstrations given at one of the other seven sites.

Apart from the main hospitals, where the medical schools are now merged, the system links six others across a large area of London where students do clinical work. The school authorities wanted a system which would simplify coordination of teaching in the new school, and the DTI sponsored the scheme as a showcase for British fibre-optics and opto-electronics technology.

A control room at Charles Cross enables students to speak to the lecturer, who they can watch in colour. The system uses fibre optic cables laid in ducts owned by London Transport. A microwave link completes the circuit over a single stretch where no duct is available.

Medical school teachers have been trained to use video for lectures by the Institute of Educational Technology at the Open University and the BBC. The DTI says initial tests have been well received by students and lecturers. A research group at the medical school will monitor use of the system and measure its effectiveness.

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MPs told
to think
smallerby Jon Turney
Science correspondent

Britain is a small country in an era of big science, and needs to restructure its research commitments. This message came through clearly from two of the country's top science policy advisers appearing this week before MPs' examining science spending.

Speaking to the House of Commons select committee on education, science and the arts, the chief scientific adviser in the Cabinet Office, Dr Robin Nicholson, said Britain was responsible for around 5 per cent of world science. We could either do a little of everything, or concentrate on a few things. And the experience of other small countries suggested concentration was more effective.

He commended the science policies of the Netherlands, Sweden, Canada and Australia, and said he expected Britain, as well as France and Germany, to move towards the strong selectivity already seen in these smaller economies. Dr Nicholson was asked if this meant we should withdraw from the CERN particle physics laboratory in Geneva. But he said while he did believe we should reduce our activity in some areas it was not his job to decide which one.

Dr Nicholson's position was backed by Sir Henry Chilver, chairman of the Advisory Council for Applied Research and Development.

Sir Henry and Dr Nicholson both supported a stronger role for the Advisory Board for the Research Councils, an idea opposed by two heads of research councils giving evidence to the committee earlier.

Dr Nicholson backed the views of Sir Douglas Hague, chairman of the Economic and Social Research Council, that the ABRC must work harder to manage the civil research system. And Sir Henry argued for a majority of independent members on the board, with the heads of research councils acting as more of a consultative group.

However, memoranda submitted in advance of appearances by Sir Ralph Riley, secretary of the Agriculture and Food Research Council, and Sir James Gowans, secretary of the Medical Research Council, show both councils opposed to such changes.

The MRC says the thinking and strategic function Sir Douglas Hague proposes for the ABRC can be undertaken by the individual research councils, and the role of the board "should not duplicate or impede" the councils' own functions. Similarly, the AFRC says it opposes the board having an executive or management role over the councils.

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Employers
in call for
pay review

Union leaders are to react cautiously today to a management-inspired call for a review of lecturers' pay and conditions in public sector post-school education.

The initiative came from the employers' leader on the Burnham further education committee, Mr John Pearman, in advance of today's formal opening shots in the 1985 pay round.

"We shall have to take a radical look at further education, even if the results of our joint investigations may not necessarily produce a huge amount of dramatic change," Mr Pearman wrote to the general secretary of the National Association of Teachers in Further and Higher Education, Mr Peter Dawson.

"The essential task is to explore the educational, economic and employment issues thoroughly. We need to do that immediately in a partnership of management and unions, and with the support of the Secretary of State for Education and Science."

Mr Pearman, Labour chairman of Wakefield education authority, has made no secret of his view that a reappraisal of further education is needed since taking over from his Conservative predecessor, Mr Philip Merriale, earlier this year.

Natfhe leaders are clearly not hostile to the proposal, which is intended to take into account the complexities of the post-school education sector.

Equally they are unlikely to commit themselves immediately unless the employers meet their immediate demand for a clear indication that the external relationships set by Houghton in 1974 remain appropriate.

They point out that a review was one of the elements of the 1984 provisional settlement, eventually rejected by the membership which did not find its way into the arbitration award, although Mr Pearman says in his letter that the arbitration report commended the intention to proceed with restructuring.

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Means test: a mean test of demand

The cost-trailing prior to the Chancellor's autumn statement had prepared the ground for an onslaught on student grants. Inevitably, as long as the means test remains, there will be scope for the sort of redistribution Sir Keith proposes, but although there is some limited relief for the less well-off there will be a substantial number of middle-income families with one or more offspring in higher education institutions (and whose parents may well work in similar institutions) who will not have planned for this sudden increase in expenditure.

The overall inadequacy of student support still remains a considerable problem with next year's increase lagging well behind inflation. The National Union of Students together with other educational interests, was outraged at the Chancellor's ineffectual tinkering.

In the event, the statement was much worse than we had been led to believe. One of the better kept secrets in his mini-budget was the significant and potentially seismic change in one of the principles that currently underpin the financing of higher education. Some families will now have to pay to enable their children to be taught in institutions of higher education.

The Association of University Teachers is becoming increasingly concerned at the Government's willingness to clamp down the lid on demand for higher education. They have shown no inclination to take positive steps to widen the social base from which students come. And now, despite all their loud protestations about the need for skilled graduates, the economic importance of the new technologies and the need for a population educated to adapt to change, they are introducing a further hindrance to those deciding whether it's all worth the effort.

It would be foolish not to suppose that, once the charges are introduced, the level at which they are set will be varied to include more and more students as the Treasury increases its depredations on the education budget. The way in which maintenance grants have been eroded all too clearly shows the Government's approach.

A further dampener on demand will certainly be the 3 per cent pay factor announced at the same time by the Chancellor. Pay remains a substantial slice of expenditure in universities and polytechnics. This year's pay settlement, only recently concluded, fell short of inflation. The Government will next year again try to hold settlements down below the inflation rate set to run at five per cent even on the Treasury's best estimates.

The AUT is already campaigning to halt this persistent erosion of academics' salaries. Inevitably, another battle will be joined as the unions press for a fairer deal for their members. Inevitably, fewer of the best minds will be attracted into the profession.

The recent University Grants Committee budget allocation again shows a real drop, albeit small, in relation to the previous two years. The £10m shaved from grants for scientific equipment, while a welcome palliative, will scarcely shore-up the universities' collapsing research infrastructure. It is a sharp dismissal of the case made by the UGC for at least level funding to enable universities to meet the nation's future needs.

Diana Warwick

The author is general secretary of the Association of University Teachers.

A master of the soft shoe shuffle

by Maggie Richards

Norman Gower's first steps over the threshold of the Open University were taken in a pair of carpet slippers, footwear which was provided courtesy of the university itself, to combat the thick mud which engulfed the Milton Keynes campus in its early days.

As a 1969 recruit, 43-year-old Professor Gower can claim membership of an exclusive clan of academics, the Belgrave Square club. Named after the site of the university's planning committee offices, the group consisted of staff initially appointed at the offices and who worked there until the migration to the mudflats of Buckinghamshire got underway.

Now newly-appointed as the OU's deputy vice-chancellor, Professor Gower and the university have grown up academically together. He hopes this extensive and long-lasting connection will be one of the major strengths he will be able to bring to bear in his new role, using links forged over the years to act as a conductor of sentiments expressed at grassroots level through the OU's increasingly complex organizational structure, to the heart of the academic and administrative hierarchy.

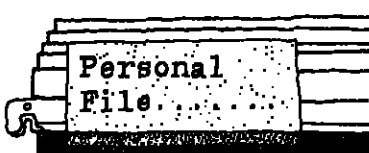
A secondary, but no less important task, will be to act as intermediary

between the various academic factions currently vying so desperately within the economic constraints for a share of the university's sparse resources.

Professor Gower is well aware of the internal conflicts the OU's cash crisis has generated, and the dramatic lowering of morale which has ensued. Given the heavy expansionist days of the 1970s, he believes some levelling off of morale was inevitable, but he admits the university's dire financial plight has greatly compounded the problem.

He does, however, charge the university with being ultra-critical of its own efforts: "Overall, we have been more successful than we could have ever hoped. I have never experienced another institution which worries so much about whether it is doing the right things, and then whether it is doing them properly. We are so highly introspective we tend to convey the impression we have not got it quite right, when we have been proved to be overwhelmingly successful."

As director of the OU's Centre for Mathematics Education, Professor Gower has been especially keen in recent years to make the study of mathematics intelligible to as broad a spectrum of students as possible. Despite his own leanings towards mathematics and the current emphasis



Norman Gower: Intermediary

on the importance of science and technology, he is concerned that the OU's undergraduate curriculum should maintain a balance between these areas and the arts and social sciences programmes. It is essential,

he insists, for a nationally based institution such as the OU to offer a broadly based range of studies.

He is also anxious to safeguard the balance of student intake to the university. Commercial considerations, while absolutely valid, should not inhibit the university from fulfilling the obligations, enshrined in its charter, to offer educational opportunities to as many people as possible.

Despite the university's present financial predicament, and as a keen protagonist of OU involvement in information technology development, Professor Gower does find room for a glimmer of long-term optimism.

He is excited by developments which, he believes, will relieve academics and students of much of the burden of the OU's tedious administrative processes, allowing the OU student of the year 2000 access via a home computer to a wealth of educational services.

The main difficulties, he foresees, will occur in the next few years when the OU has to cope with the introduction of new technology on a vast scale, while operating within the confines of strict budgets - a process which is bound to involve the university in decisions of a moral as well as of a financial nature.

Colleges in joint inner city scheme

by Patricia Santinelli

Four voluntary colleges are to collaborate in a new teacher education initiative which will ensure that their students gain solid experience of the range of problems facing inner city children.

The initiative could be the precursor of similar developments currently being discussed by voluntary college principals whereby a number of their institutions would come together to form centres of expertise in a number of areas such as in-service training, special needs and overseas students.

The teacher education initiative will build on the successful work of a special unit, the urban studies centre, now a limited company with charitable status, set up by the College of St Mark and St John, Plymouth, in Tower Hamlets, London some 10 years ago.

Here some of the Bachelor of Education and Postgraduate Certificate of Education students spend between 13 weeks to five months, during

which they teach for three days a week in a local multiracial school and for the other two, whenever possible, are engaged in school related social or community work.

The four colleges, St Mark and St John, Christchurch College, Canterbury, King Alfred's Winchester and St Martin's Lancaster, have all agreed each to pay a quarter of a share of the centre's recurrent costs. In addition, three more colleges have already shown interest.

In addition, the Central Board of Finance has agreed to a loan from the voluntary colleges' capital fund to finance the purchase of a substantial property, known as Hayward House, in London's India Dock Road.

The property which will allow the expansion of the centre comprises a large purpose-built hostel which can accommodate up to 25 students and has on site a community hall housing an intermediate education centre which provides for pupils not attending school.

Mr Roger Tingle, the director of the centre says the new initiative will help them to develop in a number of ways because they will now have a solid staffing base. This means for example that the centre can adopt a much more positive approach in developing links with schools in the Borough of Newham.

The centre will also investigate how they can provide new input into the course structure of the four colleges which identifies ways of preparing teacher training students for inner city work such as in multicultural education and the teaching of English as a second language.

In addition the centre is hoping to provide routes for ethnic minority into teaching training and the voluntary colleges, possibly via access courses. The centre is also involved in the Youth Training Scheme and a Mode B YTS course for 1985 is in the process of being approved.

Cambridge computer lab cash boost

by Jon Turney
Science Correspondent

Cambridge University's computer laboratory has been given a £600,000 boost by Rank Xerox, the computer manufacturers. The money comes from a fund set up by Rank Xerox (UK)'s parent company in the United States, and Cambridge is the only university in Europe to win support from the fund.

The firm is providing 20 workstations and supporting equipment, linked by a local area network. They will be used for final year student projects and to boost the laboratory's research on distributed computing systems.

Professor Roger Needham, director of the laboratory said: "One likes to be able to admit people onto the labour market who have used state of the art equipment". The new award, equivalent to 10 times the laboratory's equipment grant from the University Grants Committee, would help.

The Cambridge laboratory has long-standing links with the Xerox Palo Alto research centre in the US. Mr Derek Hornby, the new chairman of Rank Xerox in Britain said the donation was on top of the recently announced £1m programme of support for information technology education announced by the British company.

The new donation is the second large gift to Cambridge this year from a major computer company. It follows an agreement to develop computer-aided design teaching in the university engineering department with £1m support from IBM.

What the parental burden will be

Parental contributions to student grants increase from next September. Changes in the level depend on a family's residual income (after mortgage interest, pension payments etc are deducted). In 1983/84 the contribution was calculated at £1 in every £7 from £7,100 to £9,000, £1 in every £8 up to £14,300, and £1 in every £13 thereafter. For the current year the formula was £1 in £7 from £7,600 to £9,700 and £1 in £6 thereafter. For next year the factor remains £1 in £7 from £8,100 to £10,300; £1 in £5 to £15,000; and £1 in £4 thereafter.

Parental contribution changes 1983-1986			
Residual income	1983/84	1984/85	1985/86
7,100	80	85	—
7,600	150	91	20
8,100	201	220	148
8,600	252	271	248
9,100	303	322	291
9,600	354	373	334
10,100	405	424	377
10,600	456	475	420
11,100	507	526	463
11,600	558	577	506
12,100	609	628	549
12,600	660	679	592
13,100	711	730	635
13,600	762	781	678
14,100	813	832	721
14,600	864	883	764
15,100	915	934	807
15,600	966	985	850
16,100	1,017	1,036	893
16,600	1,068	1,087	936
17,100	1,119	1,138	979
17,600	1,170	1,189	1,022
18,100	1,221	1,240	1,065
20,000	1,381	2,036	2,524

Scots lecturers step up action

Scottish education college lecturers have this week stepped up action in protest at delays in implementing national conditions of service.

The Association of Lecturers in Colleges of Education in Scotland decided last month to withdraw good-will because they have not received assurances from their governors that they will not be adversely affected by prospective changes.

ALCES members are also taking on new work commitments or attending committee meetings outside college hours. This week they have restricted both assessment and travel to working hours, and from next Monday will limit teaching to 15 hours a week. ALCES says such action is without precedent and indicates the lecturers' high level of anger.

The college of education governors have said they cannot discuss conditions of service since the whole Scottish tertiary sector now negotiates in the Scottish joint negotiating committee, which is expected to produce conditions of service for all colleges before the end of the year.

But ALCES argues that national conditions for the education colleges had already been agreed. SINC was set up three years ago, and should therefore be implemented.

The secretary of state for Scotland, Mr George Younger, has announced that grants will be paid to local authorities for insurance training in three new courses: staff development; drawing up course modules in physical education; and the curriculum for severely mentally handicapped young people.

Jewish studies departments form group

A new association has been formed linking the various university and polytechnic departments in the field of Jewish studies, partly to counter the threat to small departments signalled in the University Grants Committee's recent strategy report.

The new body is a British branch of the International Center for Jewish Studies, which is based in Jerusalem. But, although it will raise funds for the parent institution, the group's concerns will be primarily domestic.

Dr Leon Yudin, of Manchester University's department of near eastern studies, became the group's first chairman at a preliminary meeting held last month. He is now compiling a register of all degree level teaching in the field, covering some 14 institutions in all.

If the register is completed on time, a meeting may be held next month to draw up an immediate agenda for the new body. Dr Yudin said that the UGC's contention that small departments would be at risk in the long term had alarmed those involved in the teaching of Jewish civilization, which was almost entirely concentrated in small units. They had already suffered considerably in the last round of UGC cuts.

"The field is in a very dangerous state of depletion because of those cuts," said Dr Yudin. "We want to assess demand and then try to expand in the right places."

Britain is the fourth country to have a branch of the International Center, following the United States, France and Brazil. The center itself was established four years ago under the chairmanship of Professor Moshe Davis, whose visit to Britain prompted the establishment of the new branch. Although the Association for Jewish Studies is a long-established organization, it does not function as a pressure group and the new body will provide the first opportunity for a concerted lobby for the subjects.

AUT dilemma over miners' cash

Leaders of the Association of University Teachers face criticism and conflicting advice from their members over financial support for the National Union of Mineworkers.

They will face attacks for failing to consult more widely with their members before donating £1,000 to the NUM hardship fund earlier this year when the union's winter council met in York next month. Nottingham University will argue that no AUT funds should be donated to outside bodies, while Bangor will seek an embargo on donations or loans to other unions except under certain conditions. But Lancaster regrets that only £1,000 was given and expresses support for a larger payment.

Study predicts academic shortage

from Deborah Kasouf

WASHINGTON Almost the entire professoriate of America's colleges and universities will have to be replaced over the next 25 years but there may not be enough suitable candidates to go round, according to preliminary results of a new study.

The study by two professors at the Claremont Graduate School in California indicates that American colleges and universities will need to hire about 500,000 faculty members over the next 25 years, thereby replacing virtually the entire professoriate.

But Mr Howard Bowen, professor emeritus of economics, and Mr Jack Schuster, associate professor of education at Claremont, say the study also indicates that the future availability of qualified professors is "a worrisome issue".

Since the average time between receipt of a bachelor's degree and a doctorate is 10 years, future faculty members will be entering graduate schools in the next few years. Improvements must be made now to ensure future teachers who are "personages, as distinct from nonentities... creative intellectuals who are alive and vigorous... who have a sense of being called to the profession," says Bowen.

"The calibre of the American professor is critical not only to each institution of higher learning, but to the entire nation. Our faculty members are in contact, in close encounters, with about half of the youthful members of our population, and they educate virtually all the leaders of our society."

The preliminary results were presented at the joint annual meeting of the American Council on Education and the National Association of State Universities and Land-Grant Colleges in Boulder, Colorado.

The two-year project involved extensive interviews with more than 500 faculty members and administrators across the country.

The following facts point to a coming crisis in faculty recruitment: ● The number of applicants for college level teaching positions is thinning; ● In 1966 some 1.8 per cent of freshmen in the annual freshman survey wanted to teach in higher education and 3.5 per cent said they wanted

careers in academic research. However, in the last survey those numbers have dropped to 0.2 per cent and 1.5 per cent, respectively.

● An analysis of Rhodes scholars shows that during the late 1940s, nearly 50 per cent wanted to go into college-level teaching as a career, but in the 1960s the number dropped to 31 per cent and in the 1970s to 20 per cent.

In addition, Professors Bowen and Schuster are convinced that current faculty members will soon be leaving the campuses because of negative conditions and it will become increasingly difficult to recruit new, qualified professors to replace them.

While the quality and availability of professors today is high, "we believe the bubble is about to burst," said Professor Schuster.

To increase motivation, institutions must improve working conditions and raise salaries to enable them to compete with the fields of law and business management for the best students, according to Bowen.

According to the study, compensation for faculty members nationally has dropped 19 per cent since 1970, while salaries for workers in general have gone up by 2.3 per cent.

"The 'intrinsic rewards' for faculty have also fallen, according to Bowen, who said that plant and equipment at colleges and universities had declined, secretarial help had diminished, and travel was down.

The preparedness of high school graduates has also declined, and there are more part-time students, both of which make the professor's job more difficult, he said.

A further problem is the conflicting role of teacher and researcher - a conflict which has resulted in "a deepening caste system and an eclipse of the sense of community and collegiality" among faculty members, Schuster said. Additional loss of community comes from the increasing specialization of disciplines, a widening array of institutions, and a professoriate that is growing more diverse in terms of religion, sex and race.

The growing shift from teaching to research harms those in a rank of the professoriate. Junior faculty members become isolated from departmental and community activities, and senior faculty "feel devalued and embittered by a market-driven incentive system, with pay differentials".

University staffing levels slump in New Zealand

from Lindsay Wright

WELLINGTON That 14 per cent covers teaching and maintenance equipment, consumable materials for science, library stocks and stationery.

University rolls grew from 48,700 to 58,000 over the quinquennium and the inadequate staffing levels are estimated to have meant that some 2,000 students were unable to enrol directly in the faculty of their choice. More universities are using restricted entry policies for popular courses.

Mr Marshall also released a series of recommendations put forward jointly by the Secretary of Treasury, the Director-General of Education and Dr Johns recommending the continuation of open entry to universities and the maintenance of the quinquennial funding procedure.

Non-academic staff numbers have dropped over the same period by 147 from 4,231 to 4,084. Committee chairman Dr Alan Johns told Mr Marshall that a maximum staff-student ratio of 1:15 should be set to tackle the problems of fast growing areas such as commerce, computing and law which currently have ratios of up to 1:20 or worse.

This would require 345 more academic staff and 228 more non-academic staff immediately with a major emphasis on technical staff in computing and applied sciences. Rolls up to 1989 are estimated to increase just under 9 per cent and at average staffing ratios will justify approximately 120 academic and 395 non-academic staff.

Dr Johns said: "In the mid 1970s non-salary expenditure comprised 25 per cent of university expenditure. Staff cuts and the increasing seniority of academic staff have squeezed the library and similar expenditure fields down to the present level of 14 per cent."

overseas news

Teacher will go into orbit

The National Aeronautics and Space Agency has officially launched its search for the first teacher in space, fulfilling President Reagan's campaign promise that a schoolteacher would be the first civilian to orbit the earth.

Imagination, creativity, and general health will be among the factors NASA judges will examine when selecting a field of 120 semi-final candidates in April for the scheduled 1986 blast-off, according to agency officials.

NASA's teacher-in-space programme, as well as its recent offer of a shuttle flight to the chairman of the Senate subcommittee that controls funds for space exploration, has been a publicity bonanza for the agency.

However, critics charge that the programmes are merely "campaign stunts" designed to win Congressional and public approval for its current plans for an \$8 billion space station.

A recent *New York Times* editorial criticized both the space shuttle programme and the future space station, stating that their only use will be to "give rides to the 41 senators and representatives on the four committees that oversee NASA's budget, and to the schoolteacher that a campaign-in-chief Reagan promised to send into space, and anyone else that future campaign stunts will require."

NASA's plans for a manned space station have also come under attack from the Congressional Office of Technology Assessment which recently released a report stating that the agency's plans were not justified on scientific, economic or military grounds.

The report states that NASA has its



The space shuttle Discovery blasts off from Cape Canaveral

own internal reasons for pursuing another large technology programme, including a desire to keep its engineers occupied and its budget high. The university groups and aerospace companies which the agency has solicited ideas from are closely aligned to NASA.

The report characterizes the nation's goals in space as shortsighted and narrow, reflecting the views of the science and technology communities and not of the general public, which will pay the bills.

"A persuasive case can be made for acquiring some long-term infrastruc-

ture in near-earth space, but the general public should be involved with determining the goals of any such programme," the report says. "How can the US people and government justify, today, continuing to make such truly great and continuing public expenditures on space-related matters perceived by most of our general public as lying well outside of the mainstream of their personal interests and concerns?" it asks.

The two-year study of the space station programme was prepared by the OTA for the Congressional committees that control the country's space programme.

World Bank to train poor countries

by Thomas Land

The World Bank's Economic Development Institute has embarked on a five-year training plan to help poor countries adjust economic strategies to cope with global financial conditions.

The institute is probably the most exclusive economics school in the world, offering courses for top officials from the developing regions. The new plan is intended to attract students particularly from sub-Saharan Africa for special training in identifying and acting on the causes of the severe current economic problems affecting their countries.

South Korea's deputy prime minister, Thailand's permanent secretary at the ministry of finance and the vice president and secretary of the World Bank have one thing in common - they are all fellows of the institute. Other fellows are employed in the highest echelons of finance and planning ministries and in an array of technical ministries in almost all the bank's developing member countries.

The institute's new training plan stresses important management questions - of national economics, industrial sectors, public enterprises and decentralized development. The programme will address practical problems of development administration which often inhibit the efficient execution of carefully chosen projects. The training plan is to help officials - particularly those from the smaller and poorer nations - to prepare and manage projects efficiently.

Courses and seminars available at the institute span all the economic sectors in which the bank is involved.

In the fiscal year of 1984, the institute offered courses in five major languages, including Chinese and Arabic, and in education, agriculture, industry, energy, transport and economic management and planning.

The institute has recently organized a series of high-level seminars for government decision makers for an interchange of ideas and experience on development policy issues. Liberia's

minister of health, the Sudan's minister of energy and Zimbabwe's permanent secretary at the ministry of finance were among the participants.

The new training programme at the institute is a response to the changing global economic climate generated by the increasingly unmanageable debt burden of the poor countries. The institute was founded in Washington in 1955 to meet the training needs of a very different era - when many of the bank's developing country members were just embarking on programmes to speed their economic growth.

Today, the institute is involved in both training and research. The school benefits not only from the bank's intellectual "capital", but also from its access to institutions and officials in its member countries. The institute has a multinational staff of training officers and lecturers, most of whom have come from the operations departments of the bank and have much experience gained in the developing regions.

Lecturer detained

The president of the Pakistan University Teachers' Association, Dr Hassan Zaheer, has been detained in Karachi and is said to be the first academic arrested in the country for political dissidence.

Dr Arif, considered by Amnesty International to be a prisoner of conscience, studied for his doctorate at Reading University from 1966 to 1972. While a lecturer in philosophy at the University of Karachi, where he helped found the PUTA, he spent a year on sabbatical leave at the University of Hull.

After his arrest, on October 21, Dr Arif was dismissed from his job. He has been denied access to a lawyer, but under martial law has to be brought before a military court in 90 days.

Academic colleagues in Britain fear that Dr Arif's prominence makes it likely that the Pakistan government wishes to make an example of him. His ex-wife is British and his British son is at school in Manchester but it is claimed the Foreign Office has refused to make inquiries on their behalf.

Renewed spate of sackings

from Bernard Kennedy

ANKARA When Dr Yildirim Uluer, a lecturer in law at Ankara University, went to collect his salary at the beginning of the month, he discovered that his name was not on the records.

It was only when he went to investigate this apparent mistake that he discovered he had been sacked.

Dr Uluer is just one casualty of a renewed spate of sackings taking place in Turkish universities. Within a week, a total of 15 lecturers belonging to three different universities have found themselves without a job.

Most of the redundancies were reinforced under the three-year old system under which contracts are reviewed every two years. The last three years have seen scores of academic staff removed from their posts.

Why the latest sackings? In the case of Ms Nebahat Korkmaz of Izmir University, the answer is clear. She had already been disciplined and fined for insisting on wearing an Islamic-style headscarf while teaching, thereby breaking the secular dress regulations and allegedly using the university

as a place for fundamentalist propaganda.

But what of the other 14? The official justification that their services were surplus to requirements is hard to defend at a time when there is a shortage of academic staff. Indeed, two of the three lecturers responsible for the teaching of administrative law at Ankara University were among those dismissed.

One can only speculate that, as in the past, a mixture of political and personal animosity has led to the sackings. This view is strengthened by the fact that 11 of the 15 were employed by Ankara University, whose rector, Turk Somer, is well known for his strong right-wing views.

A recent petition called for a fuller return to democracy in Turkey and the restoration of human rights. The organizers of this petition, including a number of professors, are currently being tried under martial law.

Many universities are now known to have opened investigations into members of

overseas news

Fears for history in Sri Lanka

from D. B. Udalgama

A professor of history at Peradeniya University in Sri Lanka has expressed concern over the decline in the number of students undertaking courses in his subject.

Professor C. R. de Silva, giving the G. C. Mendis memorial lecture, revealed that his department had asked the University Grants Commission last year to provide for a special admissions procedure whereby students committed to studying history could enter the university with lower admissions requirements - a request which showed that history was becoming an "endangered discipline".

Dr G. C. Mendis was a pioneer in the study of Lankan history. He studied at University College, Colombo and the universities of Munich and London and was awarded a doctorate by London University for his thesis on the Mahawamsa, the Pali chronicle of Sri Lanka's early history.

In his address, Professor de Silva said: "While we look back with pride on the achievement of our historians in the recent past, it is necessary to recognize that all is not well with the study of history in Sri Lanka today."

"The interest in history was at its highest in 1967/68 when 5,784, or 53 per cent, of all undergraduate students in faculties teaching social sciences and humanities followed a course in history. In 1984, just 17 years later, less than 300 students study history in all our universities."

"A parallel decline in the study of history has occurred in senior secondary schools and, because most history teachers in senior schools are (or ought to be) persons with some university training, the swift decline in numbers of undergraduates reading history seems to preclude revival of the study of history at the senior secondary level."

Professor de Silva said that the decline in the study of history is beginning to have important consequences on the writing of history. Sri Lanka, like many other Third World countries, possesses only a very small group of relatively affluent scholars who might be classified as "amateur historians".

The "amateur historians" had indeed made significant contributions to understanding the past but the bulk of scholarly historical writing since independence had come from the professionals - some of them sociologists, political scientists and linguists but most of them members of the various departments of history in Sri Lanka universities.

With the decline in the numbers of students reading history, Professor de Silva said, these departments had begun to dwindle in size. Fresh recruitment to the teaching staff had ceased years ago and university historians were now an aging breed. However, while individual historians could well survive, and indeed thrive, there was a real possibility that, if the trends continue, there will not be a new generation of historians to take over from the old.

Poor prospects for Czech graduates

University graduates in Czechoslovakia frequently find it difficult to obtain jobs "commensurate with their abilities", Jindrich Polodnik, a central committee secretary of the Czechoslovak communist party admitted recently.

Addressing the sixth higher education conference of the Socialist Union of Young in Bratislava, he said that there were many instances when young people found their prospects blocked by the generation gap: their elders were wary and unwilling to entrust them with responsibility.

On the other hand, Mr Polodnik went on, some graduates were afraid of responsibility. Hundreds of engineers qualified each year but many of them were unwilling to go into industry, he said, preferring to find comfortable and undemanding posts in administration.

Politicians fail to woo academic voters

from Geoff Maslen
MELBOURNE

As the Australian elections draw to a close, academics can take little heart from either of the policy speeches delivered by the two main political party leaders.

Despite strenuous protests from higher education groups around the country about inadequate levels of funding and despite calls by some of Australia's top scientists for more money for research, prime minister Bob Hawke barely mentioned the word "tertiary" in his policy speech.

The opposition leader, Mr Andrew Peacock, did no more than take a leaf from the diary of former conservative prime minister Malcolm Fraser. Mr Fraser, known as the turkey who called an early Christmas because he held an election months before it was necessary and lost badly - delivered body blows to higher education from which the institutions have hardly recovered. Mr Peacock if elected, could repeat the attack with a promise to cut back on increased government spending by A\$1,200m.

As educationists feared would happen, education at either the school or post-secondary level appears to have been left off the political agenda. Mr Hawke referred to substantially increased resources but did not spell out the fact that the education budget has been fairly closely detailed for the next eight years for schools and for the next three years for higher education.

Only private schools can feel particularly satisfied with what the new Labor government, elected in March 1983, has offered. They have been guaranteed federal aid at a level previously considered impossible for a radical political party to accept.

Indeed, there are some in higher education who believe that the divisive issue of state aid to private schools has been settled at the cost of government schools and the tertiary sector. In his policy speech, Mr Hawke said a new Labour government would encourage research by allowing a 150 per cent tax deduction on "genuine expenditure within Australia". This would mean that the effective cost of research and development to an investor would be only 31 per cent of increased expenditure. "We expect this initiative to expand substantially the research and development effort within Australian business and assist also in the revitalization of the established research community."

While this promise may make more money available for applied research, the concern of academics has been about the low levels of funding for pure research especially that available through the Australian research grants scheme, whose allocation of grants for 1985 has been among the worst on record.

Mr Hawke's speech, in fact, linked education directly with national reconstruction, technological development and economic growth - the line the government has adopted throughout its first term of office.

But as critics have pointed out, the contrast between the space given to technology and that allocated to tertiary education in Mr Hawke's speech (a ratio of about five to one) indicates once again the lack of faith the government has in the structures of performance of higher education.

Mr Hawke, in fact, placed stress on the government's concern to review the quality and relevance of education and the inquiries already under way into these aspects.

Two inquiries - one into the operations of the federal funding agency, the Tertiary Education Commission, and the other into the effectiveness of schools, would, said Mr Hawke, form the basis "for ensuring that the substantially increased resources which we will make available to education at all levels, are used in the most effective way in the years ahead".

Academics will have to live with these vague offers if, as seems almost certain, Labor is returned with a renewed majority.



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Challenge of unemployed graduates

from Barbara von Ow

The soaring number of unemployed with university qualifications in West Germany should be seen not as a threat but as a challenge for the employment market, the president of the Federal Employment Office, Heinrich Franke, has said.

Addressing the Central Office for Job Mediation (ZVA) in Frankfurt Herr Franke said the number of jobless university graduates had risen by 29 per cent and that of polytechnic graduates by 25 per cent over the past year.

Nevertheless it was wrong to speak of an "academic proletariat", Herr Franke told the institute, which was set up in the 1950s as a broker for top positions in German industry. Rather, the problem should be seen as a challenge to boost innovations in industry and society.

At the end of June there was a total of 136,000 applicants with university and polytechnic degrees - 15 per cent more than a year ago - for only 13,400 available jobs. However, at 4.5 per cent the unemployment rate for university graduates was still markedly lower than the national rate of almost 9 per cent. The same was true for polytechnic graduates (5 per cent).

Furthermore, while the overall number of employed people had declined by 1.5 million over the past ten years, that of leading positions in industry had risen by 500,000, despite the recession, Herr Franke noted.

Graduates looking for first time employment, mainly those with art and social sciences degrees, were bearing the brunt of the problem. Engineers, technicians and scientists had far less difficulties in finding jobs.

Sixty per cent of university and 36 per cent of polytechnic graduates were working in the civil service. This was markedly more than the overall share of the civil service in total employment (22 per cent). Generally, the job problem would be much worse if graduates had not become increasingly prepared also to accept jobs which traditionally did not require a higher education qualification.

Meanwhile, the employment crisis for graduates is showing its effects in the student statistics as an increasing number of older students hang on at universities because they cannot find jobs. According to figures released by the central statistics office, 86,515 or 10.1 per cent of the students, 20 years old in 1982/83, in 1976 the figure had stood at 43,336 or 7.4 per cent.

Malaysia and Japan sign pact by Geoffrey Parkins

The Japan Society for the Promotion of Science and the Vice Chancellors' Council of National Universities in Malaysia have signed a memorandum of understanding which will formalize a programme of scientific cooperation and exchange between institutions of higher education in the two countries.

The programme, which covers all fields in the humanities, social and applied sciences, will involve the sharing and coordinating of research expertise, professional facilities by the exchange of scientists and students.

Priorities to be given to those areas of research identified and agreed upon as being of most urgent importance by both sides in a recent joint staff meeting of the two societies. These include: computer, information and environmental science; and research into polymers, organic chemistry of natural products and soil mechanics.

The memorandum was signed by JSPS director-general Sogo Okamura and VCU chairman Professor Ungku Abdul Aziz. Professor Ungku Aziz said the formal agreement signified the commencement of an important new era. He added that he hoped this would lead to further scientific and economic ventures with Japan.



From Women at Work by Chris Aldred

Giving birth to assertiveness, raising the consciousness

The women who have just given birth lie on the delivery bed like a stranded beetle. Her legs strapped apart to posts in the air cradling her new baby, she is inconspicuously in her arms. Underneath the photograph the caption reads: "If this picture offends you, think what it does to the woman in it" on the front page of the second issue of the Women's Educational Association's women's studies newsletter which has a special feature on health and women.

The photograph shocks and is probably intended to do so to draw attention to the hotly debated issues currently raging in women's health. The revamped style newsletter nevertheless carries with it the vigour and energy of a section of the WEA, which is in rude health. For women's studies is alive, well and positively thriving in the WEA.

Courses in those parts of the country where effort has been put into providing what women themselves want are thriving with a growth in demand for the popular courses like self-defence and assertiveness training. Tutor organizers with a defined brief for women's interests are beginning to take a foothold in the districts. Maybe only on a small scale but they are set to become a feature of the WEA in most districts before long.

Experience has already shown that women's studies have the potential to revitalize the WEA for example the new branch recently set up in Staly Bridge in Tameside which grew out of women's courses and now provides a wide range for both men and women. The north-western district is one of two districts, the other being northern, where there is a tutor organizer with specific responsibility for developing women's courses. Now around 10 per cent of north western district's courses are for women on isolated housing estates involved particularly through the district's health education project.

Part-time tutors on whom the WEA depends can themselves be isolated, without knowledge about what is happening elsewhere and can find themselves floundering in a vacuum. A full-time paid tutor organizer with a special remit can make all the difference: encouraging good practice, helping with the training of tutors, providing advice on making publicity material more attractive.

North-western district through Jane Black, the tutor-organizer with special responsibility for women's studies is to receive a grant for the next three years from the Health Education Council in a pilot project to develop a coherent set of courses in women and health aiming to reach those women in ethnic minorities and housing estates who are often unreachable.

The project is building upon existing but sporadic well-women and self-help groups. In a community primary school in Oldham the WEA has linked up with an Asian women's group which holds evening meetings there to provide Urdu and English tutors for a health course.

The change in emphasis inherent in the project is to take the WEA to where the women were and ask them what they want rather than to simply advertise and hope that someone would turn up.

It also hoped that a teaching pack cum activity kit will develop out of the project's experience which can be made available on a national basis for other groups around the country, not just within the WEA, to use.

Donations to the Margaret Sanders Memorial Fund should be sent to the treasurer, 15a St Giles, Oxford.

John O'Leary

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Juggling with the figures

The first flush of delight at the Government's £40m increase in next year's advanced further education pool may pale considerably when news starts to filter through to polytechnics and colleges of what that means for their own funding levels.

Although the details of the 1985/86 distribution are still to be agreed by the National Advisory Body, projections based on the various options still in play make alarming reading for some, especially in the polytechnics.

Few would question the relative generosity of the £620m allocation, especially in the light of other items in last week's autumn statement by the Government. But it is by no means the bonanza it may have seemed a month ago. Rather, the quantum seems to represent a reasonable attempt to reimburse institutions which have continued to take in sufficient students to quell serious dissatisfaction about access to higher education.

The question is whether the NAB can devise a system which will achieve that aim while also allowing it to launch other initiatives to which it is committed. The sheer size of the sector, together with the complexity of the funding formula, makes this anything but an easy task.

Part of the difficulty lies in accommodating two such initiatives: the NAB's own desire to set up a research fund and the inspectorate's proposal for more generous staffing levels in teacher education. Even the modest sum of £2.5m recommended by the NAB board to be set aside for research may have to be ploughed back into the main pool to see that the polytechnics are not effectively penalized for carrying out the policy of trying to protect access to higher education. The NAB committee has already decided not to go ahead with the research fund this year unless it is satisfied about overall funding levels.

The signs are that the teacher training initiative, designed to put Sir Keith Joseph's plans for the subject into practice, may suffer a similar fate despite determined backing from the Department of Education and Science. The objective of a 10:1 staff student ratio for initial teacher training courses would entail big cuts in mathematics and computing art and design, and the paramedical subjects.

Even engineering, which appears to get more money, would be worse off because of the rise in student numbers. Although the issue is still to be debated by the board and committee, the working group advising on the distribution of the pool has decisively rejected any change.

However, even assuming that neither of these initiatives goes ahead next year, obstacles still remain in the way of an equitable distribution. There will be pressure, for example, to reward the most cost-effective colleges by raising the so-called "floor", or minimum funding level per student. Technical considerations to do with catering and residence charges mean that an increase to £1,315, rather than a simple allowance for inflation to £1,270, would be needed to reach the value intended last year.

Not to go for the higher figure would be rough justice indeed on colleges such as Ealing, Humberstone and the Bolton Institute, which were intended to have been reclassified this year to take account of their similarity with the polytechnics. But, since all but three of the 38 "major" colleges would also receive this bonus, it is an expensive concession to make. It would mean only three of the polytechnics definitely receiving an increase above the notional 4.5 per cent allowance for inflation.

The working group has done its best to tip the system towards rewarding those taking more students at low cost. It has agreed, for example, to differentiate between the polytechnics, the major and the minor colleges on the basis of the NAB's planned student numbers, rather than using this year's allocations. It has also recommended cutting the safety net for the rate of cuts expected in a single year. While retaining a maximum level of cut of 5 per cent, it has proposed reducing the amount to be lost by only a third compared with last year's half.

It looks as if the NAB will again have to consider departing from a straightforward formula-based funding system in order to achieve the results it wants.

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	Polytechnics				1985/86			
	1984/85	£1270 floor	% change	£1315 floor	% change			
NE London	1722	1557	-9.0	1555	-9.7			
Middlesex	1481	1492	0.8	1481	-0.0			
Kingston	1411	1475	4.6	1463	-3.7			
Birmingham	1413	1484	5.0	1473	-4.2			
Coventry	1484	1478	-0.4	1466	-1.2			
Wolverhampton	1483	1494	2.1	1483	-1.3			
Liverpool	1486	1487	1.4	1475	-0.6			
Manchester	1418	1476	4.1	1464	-3.3			
Sheffield City	1436	1467	2.2	1455	-1.4			
Huddersfield	1457	1489	2.3	1476	-1.5			
Leeds	1413	1473	4.2	1461	-3.4			
Newcastle	1420	1473	3.8	1462	-2.9			
Sunderland	1488	1491	1.5	1479	-0.8			
North London	1483	1531	4.7	1519	3.8			
South Bank	1483	1459	-2.2	1448	-1.0			
City of London	1437	1475	2.7	1464	-1.9			
Central London	1463	1484	1.5	1473	-5.8			
Thames	1465	1509	3.0	1497	2.2			
Bristol	1414	1464	3.8	1452	-2.7			
Teesdale	1334	1431	7.3	1420	6.5			
Plymouth	1362	1450	7.2	1438	8.4			
Brighton	1481	1493	0.8	1481	0.0			
Portsmouth	n/a	1507	n/a	1498	n/a			
Heartfield	n/a	1488	n/a	1478	n/a			
Lancashire	1397	1458	4.3	1446	3.5			
Leicester	1421	1483	4.4	1472	-1.6			
Trent	1481	1492	2.1	1480	-1.3			
Oxford	1458	1469	0.0	1447	-0.8			
North Staffs	1387	1464	5.5	1452	4.7			
Average	1453	1482	2.0	1471	1.2			

	Major colleges Units of resource			1985/86		
	1984/85	£1270 floor	% change	£1315 floor	% change	
Croydon	1122	1270	13.2	1315	17.2	
Ealing	1214	1270	4.6	1315	6.3	
Harrow	1190	1270	6.7	1315	10.5	
West London	1614	1304	-13.9	1315	-13.1	
West Midlands	1526	1554	1.8	1541	1.0	
Bolton	1203	1270	5.6	1315	9.3	
Salford	1226	1270	3.8	1315	7.2	
Stockport	1020	1270	24.5	1315	28.9	
Bradford & Ilkley	1274	1270	-0.3	1315	-4.2	
Bradford Hall	1202	1270	5.7	1315	9.4	
London Art Colleges	n/a	1281	n/a	1315	n/a	
Peddington	1144	1270	11.0	1315	15.0	
SW London	1201	1280	6.5	1315	9.5	
Avery Hill	1624	1292	-20.4	1315	-19.0	
Camelft	1634	1451	-11.2	1440	-11.9	
Barnet	1293	1270	-2.3	1315	-0.9	
Bedford	1186	1270	9.0	1315	12.8	
Luton	1243	1270	2.2	1315	5.8	
Slough	1179	1270	7.7	1315	11.5	
Bulmerere	1280	1301	0.8	1315	1.9	
Buckinghamshire	1203	1270	5.6	1315	9.3	
Cambridgeshire	1250	1270	1.6	1315	5.9	
Crews & Alsager	1198	1270	6.2	1315	9.9	
Charlotte Mason	n/a	1270	n/a	1315	n/a	
Derby	1348	1297	-3.8	1315	-2.4	
Rolle	n/a	1270	n/a	1315	n/a	
Dorset	1193	1270	8.4	1315	10.2	
New College Durham	1245	1270	4.3	1315	5.9	
Chelmer	1206	1288	6.8	1315	10.0	
Gloucester	1187	1270	7.0	1315	10.8	
South Hants Arts	n/a	1270	n/a	1315	n/a	
Southampton	n/a	1270	n/a	1315	n/a	
Worcester	1348	1267	-4.8	1315	-2.5	
Henricshire	n/a	1270	n/a	1315	n/a	
Humburside	1189	1270	6.8	1315	10.8	
Mid Kent	1186	1270	8.5	1315	12.7	
Edge Hill	1222	1289	5.4	1315	7.6	
North Riding	983	1270	29.3	1315	33.8	
Nene	1202	1270	5.7	1315	8.4	
West Surrey C/A&D	1122	1270	13.2	1315	17.2	
West Sussex IHE	1222	1270	3.9	1315	7.6	
Average	1257	1283	2.1	1319	4.9	

Why AS equals Audible Sigh

One can imagine the audible sigh of relief from Elizabeth House when the vice chancellors threw their full backing behind a report on Advanced Supplementary levels by the Standing Conference on University Entrance which had given its almost unanimous support to the new examination.

Followed as it soon was by a similar welcome from the Council for National Academic Awards, it must have felt that the long debated (some 30 years) broadening of the sixth form curriculum was finally on the map.

The CNA, vice chancellors and SCUE responses marked almost the end of the consultative process on AS levels. A decision was expected in December but is now not likely to be taken until next year, ostensibly because further work by SCUE is to be considered.

Up until these last responses the DES had received rather a mixed bag of views, some supportive, some outrightly opposed, others very critical and a large number expressing strong reservations and requesting changes.

Therefore the universities and the CNA's positive responses were vital. This had been stressed at the meeting by the Secretary of State for Education when he launched the AS level proposals in May. He said the establishment of the new examination rested largely on their support and agreement.

The AS level document makes it very clear that the encouragement and support given by higher education to the previous proposals for Intermediate Levels in 1980 had been the motivating factor for this latest attempt to broaden the curriculum.

But undoubtedly there were fears within the department that this support might have been dissipated by now - or that the current proposals would not find favour. So such outright support is likely to be regarded as a giant step forward for a sector which is often accused by schools of having prevented the broadening of the sixth form curriculum.

As Dr Arthur Hearnden, secretary of SCUE points out, whatever happens to the AS level proposals, no one will ever be able to say again that universities stood in the path of this particular line of progress. He adds that one of the reasons for his positive response is that universities are now much better informed and prepared to think about broadening the sixth form curriculum.

"The AS level document is taken as a serious Government proposal, while I levels were seen as more consultative. One of the most important factors is that it has not tampered with A levels. The two A level requirements stand beyond that you have a lot of scope," he said.

Attempts to broaden the sixth form

Patricia Santinelli: on the reception to reform of the sixth form curriculum

curriculum have been in process almost since A levels began in 1953.

There have been a plethora of proposals each one combining different versions of the alphabet. Among the most famous were the N and F levels which degenerated into a complex arithmetical exercise that confused many and eventually led to its demise. The next attempt was a proposal for I levels offering an intermediate examination between O and A levels which promptly disappeared.

But if the universities and CNA's response has been very positive. The reaction from our sample of higher education interests, let alone schools, teachers, some of the examining boards and the Government's own adviser on the curriculum is far less rosy even though the concept of broadening the curriculum is generally supported.

In some quarters it is being said that this is the real reason for postponing a decision on AS levels until next year. The DES no doubt would maintain that apart from the National Union of Teachers, the Secondary Heads Association, and some schools with small sixth forms, the response has been favourable, even though a number of changes have been requested.

But among those who had strong reservations are the Committee of Directors of Polytechnics, the Association of University Teachers, the National Association of Teachers in Further and Higher Education, the Inner London Education Authority, the National Association of Schoolmasters and Union of Women Teachers, the School Curriculum Development Committee, the Associated Examining Board, and to some extent Sixth form colleges.

The major issues of controversy are: possible discrimination in admission to higher education; doubts that the proposals will broaden the curriculum, and lack of resources.

Some of the points raised appear to stem from a misunderstanding of the proposals and a certain assumption that they are final.

On entrance to higher education many respondents have expressed fears that if admission requirements are altered to give automatic preference to AS levels combined with A levels, some students who have been unable to take these, will be discriminated against.

In addition both the AUT and the CDP made additional points. The association argued that if two A levels and two AS levels become the basic requirement, this might further reduce the pool of qualified students and provide the Government with a further excuse for reducing places in higher education.

The CDP felt that the proposals had not really acknowledged entry requirements for all advanced further education courses and that AS levels might not be acceptable to validating bodies such as the Business and Technician Education Council.

The AS document had made it clear that the department hoped that higher education admission requirements would be altered to give preference for example to those students with two A levels and one AS level over those with just two A levels and those with two A levels and two AS levels over those with just three A levels.

But it now seems clear that the department is unlikely to press for these requirements, and the rumours are that Sir Keith Joseph would have no objection.

This is basically a recognition of the problems that schools with small sixth forms will face in putting on AS programmes. But it is also an acknowledgement of the fact that in areas such as science students must have three A levels in specific subjects.

SCUE through its chairman, Dr David Ingram, vice chancellor of Kent University and its secretary have been at pains in recent weeks to make this clear. But both have also pointed out that there is no reason why students currently taking four A levels, representing about 25 per cent of sixth forms should not take an AS level instead of their fourth A level.

"Nobody forces people to take three A levels but universities do find this a good screening mechanism," he said. Lack of resources to provide AS programmes is another major issue which even SCUE and CNA acknowledge has caused disquiet.

The issue has concentrated on schools and colleges' likely inability to put on programmes without extra resources and at a time of cutbacks it is feared that this would have the result of disadvantaging many students seeking entrance into higher education.

Another point put by the AUT was that additional resources would be needed in higher education as AS levels could lead to longer degrees and extra teaching in specialist areas.

The association also argued that lack of resources in schools would prohibit imaginative development and lead to diluted versions of current A level syllabuses, especially in small schools. The AS document made it very clear that although there was a recognition

We've got to agree, before they run out of letters....



of the pressures involved, nevertheless institutions would be expected to accommodate AS levels within existing resources.

But there is a ray of hope contained in the recent DES paper on teacher numbers that allowances should be made in the total numbers of teachers required.

It is also very clear that the Government is prepared to be flexible and realizes that some institutions will not be able to put on more than two or three subjects out of the 14 outlined by the DES as suitable for AS level programmes.

Dr Hearnden points out that it is not a very good idea to make a decision on a major issue on the basis of arguments about resources, when the actual developments in question are some years ahead.

On the fundamental question of an effective broadening of the curriculum, it is quite clear from our sample that there are some serious doubts as to whether this can be achieved through AS levels.

As far as the list of subjects is concerned it is also clear that the department is prepared to be flexible. The issue of contrasting and complementary studies is more complex. It is very obvious that a language offers a good contrast for science students, but far less obvious whether for example economics is a complementary or contrasting subject depending on whether it is statistically based or not.

On the question of general studies, non-examined studies and a reduction in the A level curriculum, the picture is somewhat unclear. In fact general studies is suggested by the DES as a candidate for AS level and there seems to be little evidence that anyone wants to get rid of the subject.

It was also felt that AS levels could lead to earlier specialization and reduce degree opportunities, that it would eventually narrow the actual A level curriculum.

It is intended that the AS level syllabus should have the same standard as A levels.

Clearly this would not be possible if it were just an A level roughly chopped half, and would be totally unacceptable to universities. It is quite likely that if AS were found wanting, universities would renege on the deal.

On joint teaching it is clear this could cause a serious problem in some subjects but less so in others. The AS document makes it clear that there was an enormous advantage in relating AS syllabuses to suitable A levels so as to maximize the possibility of joint teaching, and thereby minimize the pressure on resources.

Obviously the department is keen to believe that joint teaching is possible, although recognizing that this is a compromise.

Dr Hearnden points out that some A level work would positively benefit from the injection of something new through AS level.

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Peter Hennessy looks at the fascination of the British political system for American academics

On the outside looking in . . .

Britain's relative decline, as every economics student and manufacturer knows, has produced a flood of imports. Usually they contain a transistor or an internal combustion engine and, as often as not, a label which reads "Made in Japan".

Our industrial misfortunes have produced an intellectual equivalent. These scholarly imports tend to come from the far west rather than the far east. They are packaged inside the reassuring frame of a North American professor. Their target is the British system of government.

The latest consignment descended on Manchester last weekend at the university's Broomcroft Hall. The label read "Inaugural Conference of the International Political Science Association Study Group on the Structure and Organization of Government".

On closer inspection, the group turned out to be a society of friends; friends of two particularly energetic British watchers, a tall, Canadian Jesuit, Professor Colin Campbell of Georgetown University, author of *Governments under Stress* and a roly-poly southerner, Professor Guy Peters of Pittsburgh University, author of *The Politics of Bureaucracy*. The general characteristic of the gathering was gregarious and strongly Anglophile.

Why are they so fascinated with our plight? Campbell and Peters produced an impromptu list of attractive American political science students were raised to savour a beautiful working model of the British Parliamentary and Cabinet system of government diled by a top class, merit-based career civil service. When you get here, you find it is not quite as

simple as that. Discovering precisely why is not easy given the degree of administrative secrecy in Whitehall.

Traditional institutions and the qualities of that elusive entity, the British Establishment, add to the fascination of finding out what goes on inside the "black box" of Whitehall. Professor Norman Thomas of the University of Cincinnati, a father figure to the younger American scholars, adduced another compelling attraction - the desire to find out what had gone wrong in Britain before the United States strayed too far down a similar trail of decline.

British political scientists are generally receptive to this particular branch of international trade. As Professor Ralf Dahrendorf, the recently departed former director of the London School of Economics noted in 1982 in his *On Britain* "interest in the intricacies of the political process is a very British pastime". And ten years ago it was two Americans, Professors Hugh Heclo and Aaron Wildavsky in their *The Private Government of Public Money*, who founded the "new realism" school of Whitehall description and analysis, by simply going and talking to senior officials, that has spawned several British followers.

The presence in Manchester of the Americans and Canadians, plus a Spaniard, a Bangladeshi, a Dane and a smattering of homegrown scholars, provided a good opportunity to review the state of the wider debate in Britain about the Civil Service and Parliament, the media and the upmarket public lecture circuit as well as in the universities and polytechnics.

The first factor to note is that without that economic decline there



Professor Campbell: Britain watcher

would be little or no debate. If we had experienced growth at roughly the average rate of our Organization for Economic Cooperation and Development partners since 1960, Sir Douglas Wass, the former Permanent Secretary to the Treasury, would almost certainly not have been invited to give the Reith lectures last year. The had, they would have been about the traffic in overseas politicians, officials and academics visiting Whitehall to learn from a successful model of stability, harmony and high achievement.

In the winter of 1973, when Britain's decade of severe economic instability began, with the quadrupling of oil prices, debating the machinery of government was an immensely arcane pursuit. Since then, the great inflation-proof-pension scare and the publication of volume one of the Crossman diaries in 1975, the Treasury-baiting which accompanied the collapse of sterling in 1976, the attack on the Think Tank for its attempted assault on the Foreign Office in 1977, further instalments of the Crossman and Cas-

tle diaries and, since 1979, Mrs Thatcher's taking of her handbag to the senior bureaucracy and its inefficient ways and, above all, the success of *Yes, Minister* as a vehicle of popular entertainment and instruction, have brought the issue into the public domain with a vengeance.

Dr David Owen, ever-ready with an unkind quip about the British establishment, has promised to make reform of the machinery of government an issue at the next general election. The Labour shadow cabinet is pledged to the introduction of French-style ministerial cabinets next time they penetrate the Whitehall private offices plus a freedom of information act to open the place up. Mrs Thatcher is committed to more of the same on her efficiency drive.

Now have the British thinking classes been slow to catch the tide. Their published works have been fuelled since 1974 by a steady flow of cuttings from the quality press and heavy accumulations of reports from the extended Commons select committee apparatus. Several promising seams remain to be exploited, however. Two in particular come to mind.

Rich nuggets await the scholar who can link the Whitehall debate of the 1980s to the "Great Decline of Britain" debate which has been rumbling on since the agricultural depression of the 1880s. The country's permanent politicians have had only a walk-on part so far in the standard literature.

For example, Professor Martin Weiner, in his *English Culture and the Decline of the Industrial Spirit*, sees the post Northcote-Trevelyan civil service as but one of the essentially aristocratic professions which mopped up the sons of the men who made Britain's industrial revolution after the public schools and ancient universities to which their socially ambitious parents had sent them squeezed all commercial flair and drive out of them.

It should be possible without falling into the "I name the guilty men" trap to try and sort out what our kind of

politically neutral career bureaucracy may have contributed to industrial and economic underachievement if for no other reason than its existence spans almost exactly the century in which the problem worsened. Whitehall deserves its place in the sunset of our "great decline" literature.

A second example really does involve heaps of raw material lying around scarcely touched let alone explored. Last weekend, Professor Campbell made a great deal of the assets of the Public Record Office at Kew. These, he argued, should enable British administrative historians to find out what actually happened in the postwar bureaucracy instead of relying on anecdote and memoir. Dr Richard Chapman of Durham University (another conference attendee) had shown how fruitful this approach could be in his new study of the origins of the Civil Service Selection Board, *Leadership and the British Civil Service*.

Will this arousal of interest in Britain on the machinery of government actually lead to anything? Not unless it genuinely impinges on the consciousness of the occupant of 10 Downing Street as it did with Gladstone in 1870 and Lloyd George in 1916 (Mrs Thatcher is not interested, apart from the efficiency bit). And even if it does, will it assist recovery? Sir John Hoskyns, Mrs Thatcher's former senior policy adviser, and a great pacemaker in the debate, is convinced it is a necessary but not a sufficient condition. While Professor Norman Thomas, who is convinced England will arise, reckons the institutional questions which so fascinate him will have nothing to do with it. The debate will be resumed in July in Paris at the international congress of the International Political Science Association.

The author reported on the Civil Service for *The Times* between 1974 and 1984. He is now a senior fellow at the Policy Studies Institute where he is preparing a book on Whitehall.

John O'Leary previews this week's meeting of education ministers in the Organization for Economic Cooperation and Development

Whatever their political differences, those attending this week's meeting of education ministers within the Organization for Economic Cooperation and Development must have taken some comfort from the similarity of difficulties they faced. The ministers will have different priorities for dealing with their problems - perhaps different perceptions of what constitutes a problem - but preparatory papers setting the scene for the two-day meeting produced a striking commonality of issues, particularly in further and higher education.

At the top of the list, warranting almost a meeting within the meeting on education in changing social, economic and technological conditions, came post-compulsory education and training: the 18-19 age group. High rates of unemployment throughout the industrialized nations of the west, which comprise OECD, has put this topic at the top of every agenda. Bridging the gap between education and training, striving for schemes which are more than cosmetic attempts to reduce youth unemployment temporarily, are illusive ideals for governments throughout the world.

Although three main approaches were found among OECD members, none could claim preeminence. One, labelled the "schooling model" integrates most, if not all, provision beyond compulsory schooling within the formal education system. In the United States, for example, this results in 87 per cent of 17-year-olds remaining in education, while in Japan 94 per cent stay on at school. The German-speaking nations prefer the "dual model", based on apprenticeships with a continuing educational aspect. The numbers of 17-year-olds enrolled in apprenticeships consequently outstrip that in the schools.

The United Kingdom leads the third group, following a "mixed model" in which a leading role is played outside the formal education system by the Manpower Services Commission (MSC) but the system itself also participates. The OECD report speculates on the chances of the British approach evolving in a way which brings it closer to the "dual" system, should the Youth Training Scheme become more permanent and established.

However, none of the systems has been able to overcome the problem of

Different countries, same problems

increased numbers of school-leavers chasing fewer jobs, leaving a pool of disillusioned youth facing long-term unemployment. Within the overall picture is a general one which will have had a familiar ring for almost all the ministers: how to cater for women. As in Britain, participation by women in post-compulsory education has been rising steadily, although the OECD secretariat suspects that this worldwide phenomenon is mostly confined to the higher social classes.

Throughout the member countries women remain a minority in universities and are found to be "significantly under-represented" at postgraduate level. But their plight is doubly serious if they come from the lower social classes. It is here that the United Kingdom parts company with the rest of the OECD, which has been making significantly greater strides in promoting social equality in the student body. In the most dramatic cases, working class participation almost doubled in 30 years in Denmark and more than doubled in a decade in West Germany; yet the figure improved only marginally in Britain in the postwar years and has fallen back to prewar levels since 1978.

A common danger, which could worsen the position still further, is the propensity for the students of poorer backgrounds to gravitate towards the less prestigious courses and institutions, and for those to be most at risk from spending cuts. The same is found for those which have been most active in promoting continuing education by recruiting non-traditional students. Nevertheless, continuing education was a major concern for all the ministers, as higher education tries to meet the demands of industry faced with new technologies and to cope with

declining numbers of full-time students in some countries. Although student enrolments more than doubled in Spain, Austria and West Germany in postwar years, there has been a universal slowing of growth in the last decade and an actual decline in Italy.

But the question which unites any gathering of OECD education ministers is the common squeeze on resources. All their governments increased the share of public expenditure devoted to education throughout the 1960s and into the mid-1970s, although there were wide variations in the amounts involved.

Education also took a larger slice of social expenditure (including pensions, health care, unemployment benefits and family and other allowances) until recently. The seven major OECD nations, including the United Kingdom, devoted 30 per cent of social expenditure to education in 1960 and the same to pensions; now education is down to 25 per cent, while pensions take 37 per cent. Higher education has suffered particularly from this trend, despite rising numbers seeking places. Priority has been given to the pre-primary education and technical and vocational areas in most countries. In the Netherlands, for example, the universities' share of the education budget fell from 21 per cent to 18 per cent during the 1970s, while the figure for higher education in France dropped from 15.5 per cent to below 12 per cent between 1967 and 1982. A similar decline took place in the United Kingdom although the ministers were told that the drop in expenditure per student was more marked still in Britain.

The OECD secretariat steered the ministers towards the question: "It too much being expected of education" in the light of the commitment shown by member governments. Its report lays stress on the need to protect the research sector of higher education but is disapproving of the trend in Britain and elsewhere of developing a polarization system, one half selective and protected, the other open and demand oriented. The ministers' meeting can never be more than a forum for exchanging ideas, but they will know by now (if they did not before) that their opposite numbers abroad appear to be encountering equally serious difficulties.

A lack of short answers David Jobbins analyses the long-running problems faced by university research staff

Two issues will dominate the agenda for the Association of University Teachers winter council in York next month.

With dissatisfaction at the continued slide in the relative value of academics' salaries and the Government's announcement of a 3 per cent allowance for pay in the next round, salary policies are bound to be at the centre of the stage.

But a far more significant debate will tackle one of the AUT's long-running sorrows - the plight of short-term contract research staff. Its significance is greater because it seems at last that there is hope of uniting the union around a policy package which has gone through a consultation process that began with the researchers' membership.

There will be little excuse for failure this time - and the outcome of the discussion will have a key influence on the AUT's abilities to recruit members from among the research staff, who because of their nomadic existence and low salaries are notoriously difficult to organize.

The policy proposals are largely pragmatic, exhorting universities to treat their research staff better and suggesting ways that this could be achieved. Contingency funds should be established by universities to bridge the gap between contracts, career development encouraged, training procedures set up, and transferability between projects made easier.

Some universities with active AUT researchers' groups are already moving in the right direction on some of the issues. But there is exasperation among activists that progress at national level has been so slow.

A much-vaunted top level tripartite meeting between the AUT, the Committee of Vice Chancellors and Principals representing the employers, and the research councils as the main funding agencies for research, has yet to materialize.

The issue was likely to be on the agenda for last week's meeting between the AUT and the CVCP, but in the meantime the delegates to the meeting endorsed a recommendation from their national committee for plans to be laid for demonstrative action if the talks fail to begin "within a reasonable period".

Despite local progress towards eradication or mitigation of the notorious waiver clauses, a prime target for the AUT in the current year, the overall picture for research staff remains bleak. The nature of their contracts and the uncertainty of outside funding means that they are squarely in the firing line in the battle for jobs. Paradoxically their numbers are increasing.

While lecturers' numbers have fallen substantially, the number of contract research staff has actually increased, to the point that they now make up more than a quarter of the academic workforce, numbering about 11,000.

They are largely low paid - one sixth of them below the minimum point on the lecturer scale - and have worse conditions of service. But, according to the AUT, they are fulfilling an important function in meeting the demands placed on the universities from outside agencies which are pumping in more research money while academics have less time to carry out their research.

Research on the cheap, at the expense of conditions of service, sums up the AUT's view. Its detailed grievances include the alleged abuse by a number of universities of the basic IB clause, and the practice of appointing experienced researchers at the bottom of the scale when they begin new contracts.

When the AUT monitored advertisements for research staff it found that restrictions on the use of the IB scale, agreed with the university employers in 1974, were not being applied by a

number of universities. It says that IB, which it wants to see abolished, should, under the agreement, be used only for training purposes and that researchers with doctorates should be appointed to the higher IA scale. There is also evidence, collected by the AUT, that some staff are remaining on the IB scale longer than the six years envisaged under the 1974 agreement.

About a third of research staff are on the IB scale, nearly 15 per cent of them aged over 50 when normal progression through the scales would mean that the top would be reached at the age of 29.

Another survey found that of the older researchers, a high proportion was concentrated at the top of the scale (36.6 per cent of the over-30s in the case of IB).

Among universities leading the way is Bristol, where recommendations put forward after a survey of researchers, conditions are in the process of being implemented.

Most of the suggestions, including a pilot study for a contingency fund, have been endorsed not only by deans but by the university's senate. With an initial allocation of £50,000 the contingency fund allows greater continuity of employment by bridging the gap between contracts when research workers would otherwise be unemployed. A maximum of six months has been adopted, and the scheme applies only to contract research staff employed continuously at Bristol for two years or more. The arrangements, which have a number of conditions attached to ensure the money is used as a genuine "bridge", is subject to review after a year.

Bristol, along with a number of the Scottish universities, is leading the way on waiver clauses too, although total abolition is proving difficult to achieve. At Bristol, waiver clauses remain for staff on their first contracts but are not demanded when contracts are renewed. One estimate sug-

gests that if waiver clauses had never been adopted, a gross expenditure of £19,000 would have been involved in 1983. But after recovering some 41 per cent of the total from the Department of Employment, the net cost would have been only £11,200.

A similar survey at Leeds found that more than a quarter of the people on contracts were within six months of the end of their contract and had no firm offer of a job. More than half the researchers questioned wanted to continue in research, 47 per cent in a university or institute, while only 35 per cent wanted a lecturing post.

Worryingly for the AUT, only 13 per cent of researchers at Leeds who responded were members of the union. Recommendations arising from the survey, including an end to waiver clauses and better redundancy terms modelled on Salford's system of *ex gratia* payment for staff leaving a fixed term contract post without a permanent superannuated post to go to, have been adopted as policy by the local AUT. They are now being considered by the university, and senate and council have set up a working party to consider the response.

At Manchester, negotiations are continuing on the abolition of waiver clauses, but AUT representatives say it is proving a hard battle. The university is prepared to accept liability for redundancy payments to staff with four or more years' continuous service.

Dr Brian Salter, who is stepping down as chair of the AUT research staff committee, feels that the internal divisions which plagued the debate in earlier years are in the past. One possible reason is the growing use of fixed-term contracts outside research, most dramatically at Aston, where all appointments are being made on such terms.

Suddenly, the researchers' battle has ceased to be an isolated struggle and has appeared on the agenda for the entire association.

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Public drama, private trauma

Peter Wagstaff celebrates the 250th anniversary of Rétif de la Bretonne, chronicler of the French revolution

This year marks the two hundred and fiftieth anniversary of the birth, in a village in Burgundy, of the novelist, chronicler and utopian writer Nicolas Rétif de la Bretonne. What remains today of the reputation of a writer whose praises were at one time sung by Goethe and Schiller, Stendhal and Baudelaire? Probably that of a slightly seamy eroticist (barely deserved) and a meticulous observer of street life in revolutionary Paris.

That part of his achievement that goes largely unremembered, but is perhaps most worth commemorating, is his unrelenting dissection and examination of his own moral and emotional life, coupled with a revelatory awareness of the moral and social changes occurring in the world around him. Rétif's evocation of early childhood and the loss of innocence, set in a pre-industrial, rural community, are without parallel. Equally, his unceasing lament at the corrupt moral condition of an emerging urban society in the latter half of the eighteenth century gives a unique insight into the stresses acting on such a society in its evolving state, and on the individual obliged to live within its constraints.

When Rétif moved from village to provincial town, and thence at the age of 16, to Paris, he was doing nothing remarkable in the context of the age. Indeed, a constant feature of Paris life (perhaps more than any other major capital) throughout the eighteenth to the middle of the twentieth century has been the magnetism which has attracted the young from every French province. A contemporary commentator saw France as "a great spider with Paris as the fat, fleshy body, and the legs representing the poor emaciated provinces".

In one obvious sense language was his livelihood, since he was a printer's apprentice in Auxerre and, subsequently, Paris. By and large, too, he earned his living by his pen: the writer/printer combination curiously similar to that of his near contemporary Samuel Richardson in England. But if Rétif wrote to live, he also lived to write, creating a world which, for all its multifarious settings and intrigues was rooted in — and faithfully mirrored — the troubled stirrings of an individual consciousness.

Around 250 volumes — novels, novelettes, moral tales, sketches, essays, plays — all, in the end, with a single, thinly disguised hero and, reduced to its barest essentials, a single life-cycle: naïve and trusting country boy looks to the city for fame and fortune, finds only vice and corruption, and looks back on his simple rural origins with a myopic nostalgia based on guilt and regret. He appears in many guises, of course, but just one, towards the end of a writing career spanning 40 years, does Rétif give him his real name, in the morally — and factually — truthful and moving autobiography *Monsieur Nicolas*.

Looking back is crucial. More than anyone perhaps before Proust, Rétif lives on and by memory. Perpetually despairing of the turn that events in his life are taking, constantly disappointed by his emotional and sexual encounters, for ever appalled at what is, for him, the decline of a culture whose values he cherished, Rétif lives and writes to recreate past happiness and to stem the flood of time.

There is no facet of Rétif's activity that does not bear witness to this preoccupation: that repeated rewriting of his own life story, the frantic scribbles in diaries and notebooks long before the start of his writing career, the curious graffiti-like inscriptions in the stonework of the Ile Saint-Louis as he recorded the salient dates of his love affairs, their promises and disappointments, the better to be able to savour them in retrospect as the years and the anniversaries roll by. Stone seems a more durable monument than mere paper: the habit reaches a climax in the early 1780s as every new turn in his stormy relationship with the deceitful Sara merits a new carving. But even this is not enough — he has to write about the carving as well — double indemnity against the transience of human experience: "When I knew Sara I carved my dates almost daily... this passion for Sara will make them all the more fascinating: the current ones I shall carve with even more care; I shall look

upon past ones with even more feeling."

So it is the intimate and personal anniversaries that are worth commemorating. Sometimes, though, these dates coincide with other, more momentous happenings. In an entry in *Les Nuits de Paris* for July 14 1789, Rétif writes of the aftermath of the fall of the Bastille: the severed heads, impaled on pikes, being paraded in triumph, the mutilated body of the governor in the gutter of the place de Grève, the papers and documents flung from the battlements by liberated prisoners.

But the passage ends with a return to more personal concerns. The public events cry out to be recorded, but it is the private calamity that seizes Rétif's imagination and engulfs him as, denounced as a monarchist spy by his hated sort-in-law in a spiteful rage, he imagines himself hunted, pilloried, denied the freedom to wander around his beloved Ile Saint-Louis: "Every Frenchman will be free, except me! The July 14 is my last date on the Ile. It was July 14 when I first came to the town, in 1751: that was the date when I was lost to the country for ever: the same date now sees me banished from my Ile".

So often — and this goes some way to explain Rétif's enduring fascination, the private trauma runs parallel to, and mirrors, the public occurrence. On occasions, though, the coincidence becomes too acute, the issues cut too close to the bone for Rétif to be able to do more than simply allude. In August 1792, street rioting was followed by the arrest of Louis XVI and his family. In the same month the Legislature declared the abolition of the monarchy and set up an Assembly to be elected by universal suffrage. By the end of November the king was on trial for his life. He was sentenced on January 19 1793 and executed two days later.

Rétif, the tireless chronicler of daily (and nightly) life among the people of Paris, creating a matchless, vastly detailed picture of street life in the capital, stayed away from the execution capital, stayed away from the execution capital, stayed away from the execution capital. Rétif, all of whose outpouring of novels, essays and the like bear witness to the insatiable lure of the written word, depends on the verbal account of an eye-witness to record the end of a dynasty in a couple of sober lines: "Louis spoke. The word 'Forgive...' was all that could be heard. The executioners were told to proceed; they brought him forward to the block and, in an instant, his life was over".

Strictly, of course, it was not Louis XVI who was executed, but Louis Capet, private citizen, divested of his royal status. Yet the distinction is a fine one, as Rétif says: "They said he was only a man: true, but this man had a direct relationship with each individual Frenchman: everyone saw in him an intimate acquaintance, a man whose name sounded constantly in their ears, in whose name all good and evil had for long years past been committed. He was only a man, but he was the rallying point for twenty-four million men — the perfect image of paternal authority from earliest times".

On those rare occasions when Rétif does touch upon the final days of the Old Regime, it is not the political debates, the constitutional wranglings that interest him. Nor is it the high drama of the revolutionary court. He

writes instead, sympathetically, of a man who, having lost the burden of kingship, can become his children's father for the first time.

It was the sort of consolation to which Rétif aspired, but which he never attained; for reasons which appear at once personal, stemming from a turbulent sexuality that conditioned the nature of his own family life, and general, as a society founded on a respect for paternalist and patriarchal values tottered and crumbled.

And over all this looms the image and memory, sometimes balefully stern and reprimanding, sometimes gentle and encouraging, of the family patriarch, Edme Rétif, the father of Nicolas. He writes of his father — often — with a mixture of affection, awe-filled respect, and resentment. Less perhaps for the man's personal qualities than for his representative value: as the errant Nicolas strays further and further from home, both morally and geographically, the severe values of an unchanging rural world, in the person of the father, reassert themselves under the guise of, first, guilt and nostalgic longing for a lost innocence.

This lost innocence has its own domain, an enchanted one even, as the family home, the farm of La Bretonne, and the surrounding countryside takes on the aura of a Golden Age of untroubled rural felicity. There is one spot in particular that has a dreamlike, magical quality: Nicolas discovers a sheltered uncultivated valley, teeming with wildlife, abundant with shrubs and fruit trees. He decides to adopt it as his own private realm.

For Rétif, the myth of the lost domain, of innocence in a rural setting, is a potent one, but no less illusory for that. What he yearns for is not the place, but the time, not the slow-moving rural world, but the Eden-like state of early childhood, where the serenity of permanence and certainty have yet to be ousted by the anguish of separation and doubt. Looking back, Rétif debunks the myth of pastoral innocence: "And they say that village life is innocent! Wherever there are men and women, there is trouble and corruption".

This last, sad, conclusion is one that Rétif draws everywhere, in his life, in his novels. Human beings are frail, easily led, and will, left to their own devices, succumb to whatever temptations are put in their path. The evolving urban world of the late eighteenth century offers too stark a contrast, in its temptations and offered pleasures, to the static predictability of an earlier, largely rural, world whose hierarchies are sanctioned by strict religious belief.

There is only one way for Rétif to protect his creatures from uncertainty. Unable to turn the clock back to a time of sure values and dictated roles, all he can do is build fences around his characters, corral and restrict them for their own good. Hence his self-appointed role as would-be social reformer, legislator and inventor of utopias.

Plans for the reform of the theatre, prostitution, spelling and punctuation (!) and, crucially, the roles of men and women respectively: an entire utopian community, set in a sort of no man's land between town and country, controlled and regulated to the last detail — all with one common thread and purpose: the re-drawing of distinctions between the sexes, no more of this



scandalous blurring of the male and female.

Above all, no more of the economic and sexual freedom for women which comes with industrial growth and urbanization, for this is a freedom which strikes at the heart of the patriarchal family and, no less surely, the male-dominated world. "All girls will be taught from childhood that they are to be subject to their husbands' will". There is an air of lifelessness about these utopian communities, where all choice is removed, and people are reduced to a pavlovian level of response to reward and punishment, mere automata in the search for a perfectly regulated society.

In the end, Rétif tires of these vapid, two-dimensional inventions, and turns to full-blown fantasy, abandoning all pretence of credibility for his utopian dream. And yet, strangely, the utopian capital that we find in the fantastic science-fiction world of *La Découverte australe* is a familiar one: somewhere in the southern hemisphere is discovered the land of the Megapathogens, with the city of Sirap which, by virtue of its social organization, is the mirror image — not surprisingly — of the corrupt Paris. The pattern of community ownership of property, regulated work and leisure hours, numerically and geometrically precise division of family units, is much as before. But all this is now accompanied by a series of preposterous adventures and anthropological extravaganzas (hybrid men-monkeys, -bears, -frogs) and, to complete the picture, a detailed, if not particularly rigorous, commentary on the origins of life in the universe.

In the sort of exploratory disquisition that hints at an early understanding of Lamarckian evolutionism and the origin of species, Rétif unfolds an animist interpretation of the origins of life which seeks to transform the universe into one vast, perpetually procreating and self-repeating life-force. For Rétif, there is an indissoluble link between the life of the individual on the one hand and the life forces acting upon the natural world on the other. Sexuality is at the basis of all life, whether it is the cosmic life of the

universe or the life of the individual. He is unable to contemplate life in a world without order; the head of the family, the monarch of the realm, are the ultimate guarantors of that order. In time, the society in question assimilates the conflicts and the changes, and moves on. Rétif is less resilient. He dies in 1806, embittered and impoverished, convinced that the way to immortality lies through his children, and that every one of his supposedly innumerable love affairs has left him with a daughter.

He remains quite certain that the women with whom he falls in love in later years are, in fact, these very same daughters, unrecognized. The process will thus be repeated, enabling him, through this weirdly incestuous circularity, to recreate in impossible perpetuity, a world in which he can reign supreme, head of the patriarchal family, king of his secret valley.

planets, or the organisms of the natural world. All is order, symmetry and harmony in the natural world, as it should be in the social world.

All this is in ironic contrast to the reality of Rétif's own existence in the latter years. While all his writings exalt the stability of the marriage bond, the family unit, the strong paternal authority, he is reduced to nothing, towards the end of his autobiography: "Our divorce has come through at last. Requesting it is the only favour that Mlle Agnès Lebbgue has done me in 30 years". This bleak and bitter comment by Rétif marks the last, unhappy years of a life dedicated to the pursuit of private happiness and public harmony. His private world is in shreds as, at the age of 60, he finds happiness only in the brief, embittered memories of his country childhood. His vision of an ideal society, toyed with at length in novels, stories, treatises, jottings, over three decades, has been shattered by the excesses of revolutionary Paris.

And the final irony: in September 1792, on a wave of reforming fervour, a law comes into force permitting divorce in France for the first time. It is a law which will be short-lived, repealed by order of Napoleon in 1803, as part of the inevitable backlash of reaction and social retrenchment. It represents nevertheless a break with a hierarchical and male-dominated tradition of family legislation: making divorce equally available to men and to women, it demolishes cruelly and irrevocably Rétif's ideal of a gentry authoritative, patriarchal family unit. In the later stages of his autobiography the tone is a mixture of resentment and regret as he complains "Most men find fatherhood a consolation in their old age. For me it has become a chasm of anguish, an intolerable burden".

No sign here of the consolation found by Louis XVI, father and husband, as he awaits his execution. Not for the first time in the story of Monsieur Nicolas, private and public histories converge. In revealing his stresses and contradictions of a society and of an age.

He is unable to contemplate life in a world without order; the head of the family, the monarch of the realm, are the ultimate guarantors of that order. In time, the society in question assimilates the conflicts and the changes, and moves on. Rétif is less resilient. He dies in 1806, embittered and impoverished, convinced that the way to immortality lies through his children, and that every one of his supposedly innumerable love affairs has left him with a daughter.

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The author is lecturer in the school of modern languages at the University of Bath.

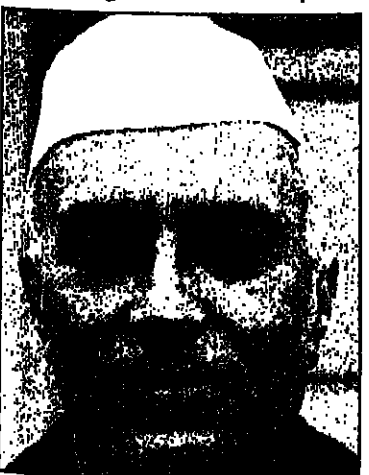
Though not wholly unexpected, Mrs Gandhi's assassination on October 31 took the world by surprise. All the hypothetical questions of the last few years acquired in a single violent instant an air of reality and urgency. Will India hold together under the strains of regionalism that seem to have intensified, particularly in the sensitive states of the north-west and north-east, over the past decade? What are the prospects of the post-Mrs Gandhi era for India's position as a regional power and as a dominant non-aligned force in international relations?

How long can Congress (I), the national ruling party, continue to exercise power, with or without Mrs Gandhi's dynastic heir at the helm? Can the Indian political system find ways and means of stemming the process of fragmentation, acutely manifested since 1967, which is endemic to national and regional parties alike (with the exception of the cadre parties, the two Communist parties and the right-wing Bharatiya Janata Party)? Is any room left for initiating a constitutional process by which a predominantly centralized unitary system of rule can be expected to yield place to a somewhat more federal (if not confederal) approach to the question of power-sharing between the centre and the states?

If civilian political forces fail to steer the ship of state effectively, can the days of military rule be far behind? Last but not least, what are the characteristics of the rapidly-changing alignments of economic forces underlying the political changes that we have witnessed over the last decade or so?

Substantive questions about India's political future have been swamped by media concentration on Mrs Gandhi's personality rather than on her role as the leader of a party which was split three times during her career — as prime minister, as chief promoter of certain economic interests at the expense of others, as a populist mass leader who rapidly lost the momentum generated during the sloganeering against poverty that preceded the 1972 general election (the only one in which her party carried the country with a convincing majority); and above all as one who showed a marked degree of distrust and ambivalence to the democratic aspects of the functioning of the Indian polity.

A fitting political epitaph might take the following lines: she assumed power



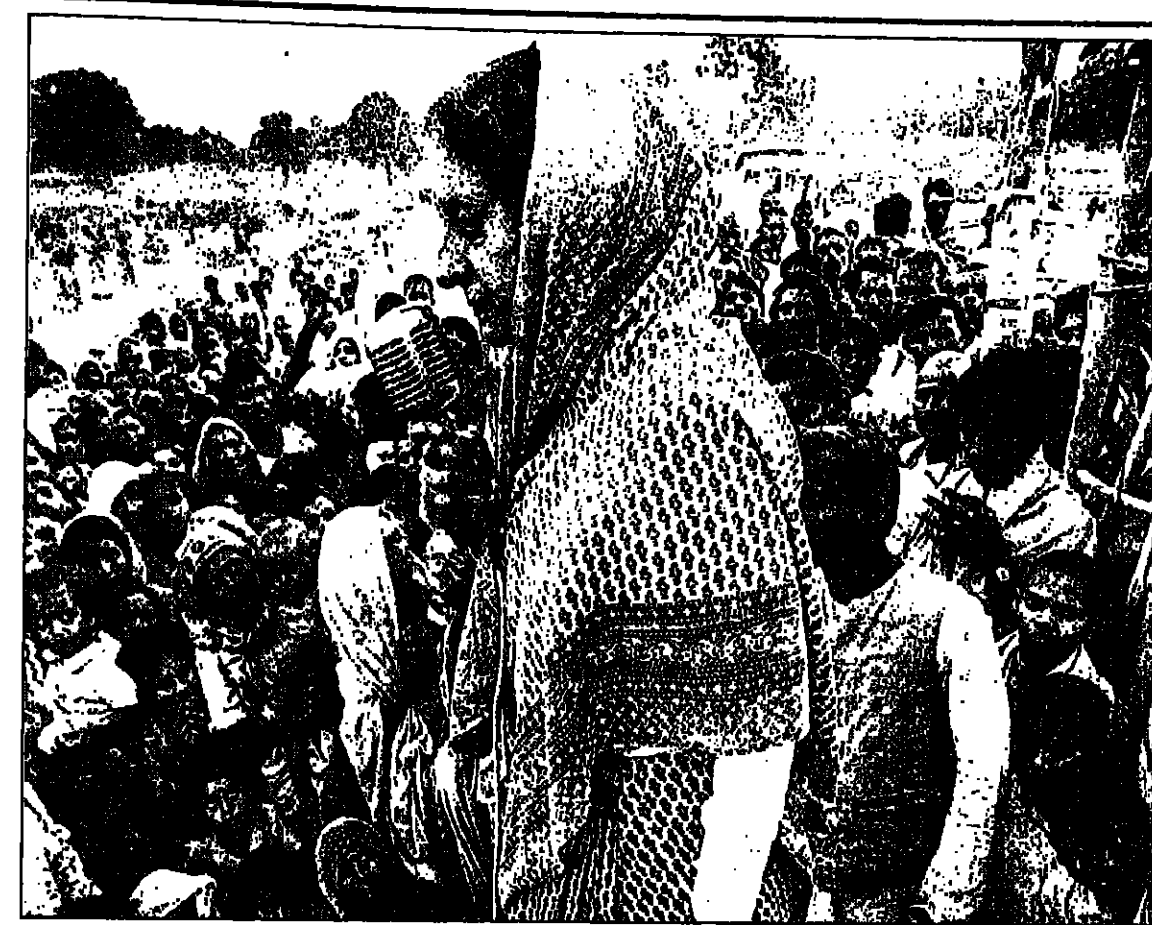
Pandit Nehru: popular mass leader

when India was at the crossroads. Its political system could have been allowed to develop in such a manner as to reflect a variety of contradictory and complementary political forces at play in the centre and in the regions or states, thus ensuring a future in which the demands of pluralism would be served through the processes of representative democracy which, by 1966, had been well established throughout the country.

Alternatively, Mrs Gandhi could have opted unequivocally for centralized rule (along the lines favoured during the emergency and after by her younger son, Sanjay Gandhi) with or without the help of the military. Though not inclined to encourage democratic practices, she could never bring herself to pursue the authoritarian alternative with complete commitment.

The failure of the 1975-77 emergency, unleashed a cascade of pent-up popular sentiment in favour of democracy, wider popular participation in political decision-making, and respect for the spirit of the constitution. During her second spell in power, Mrs Gandhi was unable to reverse this tide, though she could not give up the role that she had carved out for herself before the Janata government restored democracy in 1977.

Unprepared for a role in paving the way for undiluted authoritarianism



Mrs Gandhi: strengthened India's centre at the expense of the states

India after Indira

T. V. Sathyamurthy considers the shape and content of Mrs Gandhi's political legacy

and unable to channel the energies released by the resurgence of democratic political vitality throughout the country, Mrs Gandhi cast herself in the mould of a political leader who seemed to believe that it would be better for the country not to move in any specific direction.

In this sense, she was devoid of vision; by sitting tight on the present, she robbed it of its significance for the evolutionary continuity of the past into the future. The problems faced by India may be viewed against such a perspective of the role played by Mrs Gandhi — in power and out of power — during the period 1966 to 1984.

In 1966 Mrs Gandhi inherited a cabinet consisting largely of talented, experienced and efficient ministers who also happened to be veteran leaders of the ruling party with strong mass bases of support. Despite his aristocratic demeanour, her father Pandit Nehru had been a constitutionalist, a popular mass leader, accused to easy working relationships with his intellectual peers and a consensus seeker with regard to the tensions that divided the centre and the states; the exceptions to these occasional divisions were the states of Jammu & Kashmir and the Punjab, and Kerala, where the Communist Party was in power during the late 1950s.

He found no difficulty in dealing with powerful chief ministers of state governments ruled by the Congress Party. In contrast to his daughter, Mr Nehru elevated the Westminster style of government to an art form.

Yet, Nehru's 17 years in office from 1947 to 1964 derived their main significance from the rapid pace at which the power of the Indian state developed and ramified, and the vital role played by the state sector of India's planned economy. Planning was pursued with the twin goal of providing the infrastructure necessary for capitalist development and achieving self-sufficiency in agriculture through the green revolution.

During the first two decades of independence, a vigorous industrial capitalist class with a national (or nationwide) base developed with the state, while at the same time the stage had been set for the emergence of an agricultural capitalist class (consisting of rich and middle peasantry as well as owners of plantations) in different parts of the country. The rural rich exerted their rising influence by forming local level parties capable of capturing power in the state governments.

The regional, communal, linguistic and cultural tensions of the Nehru era came increasingly to be rooted in

demands of an economic and financial nature made by different states on the centre. As long as an undivided Congress Party was in control (at the centre as well as in the states) relatively painless methods were available for defusing tensions between the centre and the states.

But, as it became evident to the newly emergent rural rich that they could no longer expect their share of the surplus available for development without struggle, new parties rose which viewed the Congress Party as the main enemy from which power should be wrested in order that pressure could be more effectively mounted against the central government for a fairer share of resources for development.

Thus, in the 1967 general elections, a year after Mrs Gandhi became prime minister, non-Congress coalition governments were returned to power in eight states. In six of these, including the Punjab, the ruling coalitions were by parties of the rural elite (including the rural Sikh and Jat-dominated Akali Dal of the Punjab, but then once again partitioned and truncated), while in the other two, Communist Party of India (Marxist)-led coalitions took power.

Mrs Gandhi's response to these developments consisted of strengthening the centre at the expense of the states in the name of safeguarding India's security and national integrity, and bringing the Congress Party under her personal control.

Mrs Gandhi was able to divide the forces of contradiction in the country, represented by the Communist Parties, by attracting the support of the Moscow-inclined Communist Party of India and subjecting both the CPI (Marxist) and CPI (Marxist-Leninist) factions to police repression. At the same time, attempts were made to undermine the forces of dissent, and the left during the years 1972-77 and especially during the emergency. The rise of Sanjay Gandhi as a political force acted simply as a punctuation mark to the process by which repression by the state against the masses in general and those critical of the regime in particular, had already been elaborated.

At no time was the concentrated fury of the state directed against the enemy with more devastating force than when the government moved to quell the national railway strike of 1974. The emergency represented but an extension and intensification throughout the country of the policy of the government towards the railway workers.

The ending of the emergency was followed by the opening of a veritable Pandora's box. The rural rich vociferously demanded access to state power and their political organizations suddenly looked capable of achieving a share of power even at the centre. The mass of people were jealous of the civil liberties they had all but lost under Mrs Gandhi's first government. The states challenged the centre to share rather than monopolize power.

The restoration of democracy as envisaged in the structures originally based on the constitution, and a new defiance on the part of the rich in the conflicts engulfing their relationship with the national industrial bourgeoisie, filled the political air under Janata rule.

When Mrs Gandhi returned to power winning over two thirds of the Parliament on a 28 per cent popular vote in 1979, the political tide in India had turned irreversibly against a one-sided concentration of central power at the expense of the states. Not only in Assam and the Punjab where regional sensitivities ranged over a variety of issues (communal, economic, political, religious etc) but also in such traditional strongholds of the Congress (I) as the states of Karnataka and Andhra Pradesh, not to mention the states in the Indian heartland, Mrs Gandhi's regime and the ruling party rapidly sank into disrepute.

This was reflected in the tensions brought to the surface by the Punjab *marcha* (1982 and after) led by Akali Dal, based on the political, economic and religious demands contained in the Anandpur Sahib resolution of the early 1970s and the high pitch of state-wide popularity achieved by the Assam students' agitation during the 1980s over the issue of "foreigners" taking refuge in Assam from Bangladesh and its economic, social and political consequences for the state.

At the same time, the Congress (I) in the states, having become the creatures of the central high command and subject to the whims of Mrs Gandhi and her entourage, was so discredited as to lose not only whole state assembly elections (including Andhra Pradesh, Karnataka, and Jammu & Kashmir all in 1983) but also a number of by-elections to state assemblies and the parliament.

Against a backdrop of defeat of Congress (I) in 15 out of 23 by-elections held in May this year, the army was called into action to deal with Sikh extremists taking refuge in the Golden Temple. This action, calculated to win the support of the Hindus on the eve of the forthcoming general elections, even although justified on grounds of national security and India's commitment to the secular ideal, alienated large sections of the Sikh community and pointed to the failure of Mrs Gandhi's opposition to power-sharing between the centre and the states.

The shape and the content of Mrs Gandhi's political legacy is very different from that of her inheritance. In international relations, her impact as the chief torch-bearer of non-alignment was disproportionately great and obscured the vulnerable and dependent character of the Indian economy as well as India's strategic dependence upon the Soviet Union.

At the same time, the "break-up of India" into many regions is not on the agenda, so it is equally unlikely that the uniformity that Mrs Gandhi sought to impose on the country by *diktat* can continue for long. She has no doubt left a powerful central state behind, and it is for this that her regime will be remembered in the future.

But, short of the armed forces (which have of late been increasingly used to restore peace and order) taking control of the state, the future would point to a new equation in which fragmented political parties (including the ruling Congress) will be compelled to share power at the centre, in the states, and along the axes of relationship that bind the two together within the reach of a federal constitution.

Quite how this is going to be achieved will constitute the stuff of the history of the next two decades or so. The failure of Congress (I) to observe the constitutional proprieties involved in the selection of a new prime minister and the alleged involvement of the ruling party (at least in Delhi) in the incitement of Hindu riots against Sikhs, are disturbing to say the least. The next general election should bring in its wake some rather more durable clues as to how the political future of India is likely to be shaped.

The author is lecturer in politics at the University of York and former professorial fellow in politics and sociology at the Christian Michelsen Institute, Bergen, Norway.

Pandora's box. The rural rich vociferously demanded access to state power and their political organizations suddenly looked capable of achieving a share of power even at the centre. The mass of people were jealous of the civil liberties they had all but lost under Mrs Gandhi's first government. The states challenged the centre to share rather than monopolize power.

The restoration of democracy as envisaged in the structures originally based on the constitution, and a new defiance on the part of the rich in the conflicts engulfing their relationship with the national industrial bourgeoisie, filled the political air under Janata rule.

When Mrs Gandhi returned to power winning over two thirds of the Parliament on a 28 per cent popular vote in 1979, the political tide in India had turned irreversibly against a one-sided concentration of central power at the expense of the states. Not only in Assam and the Punjab where regional sensitivities ranged over a variety of issues (communal, economic, political, religious etc) but also in such traditional strongholds of the Congress (I) as the states of Karnataka and Andhra Pradesh, not to mention the states in the Indian heartland, Mrs Gandhi's regime and the ruling party rapidly sank into disrepute.

This was reflected in the tensions brought to the surface by the Punjab *marcha* (1982 and after) led by Akali Dal, based on the political, economic and religious demands contained in the Anandpur Sahib resolution of the early 1970s and the high pitch of state-wide popularity achieved by the Assam students' agitation during the 1980s over the issue of "foreigners" taking refuge in Assam from Bangladesh and its economic, social and political consequences for the state.

Against a backdrop of defeat of Congress (I) in 15 out of 23 by-elections held in May this year, the army was called into action to deal with Sikh extremists taking refuge in the Golden Temple. This action, calculated to win the support of the Hindus on the eve of the forthcoming general elections, even although justified on grounds of national security and India's commitment to the secular ideal, alienated large sections of the Sikh community and pointed to the failure of Mrs Gandhi's opposition to power-sharing between the centre and the states.

The shape and the content of Mrs Gandhi's political legacy is very different from that of her inheritance. In international relations, her impact as the chief torch-bearer of non-alignment was disproportionately great and obscured the vulnerable and dependent character of the Indian economy as well as India's strategic dependence upon the Soviet Union.

At the same time, the "break-up of India" into many regions is not on the agenda, so it is equally unlikely that the uniformity that Mrs Gandhi sought to impose on the country by *diktat* can continue for long. She has no doubt left a powerful central state behind, and it is for this that her regime will be remembered in the future.

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Three stages of Rétif's life — rural life, arrival in Auxerre and the Ile St. Louis



Ernest Boyer

When marketing can obscure the product

Selling higher education has become big business in the United States. As college costs go up — \$15,000 per year at Princeton University — and as credentials seem more and more important to job placement, choosing a college has become a key decision for millions of young Americans and their parents.

School counsellors give advice, pastors, priests, and rabbis frequently have opinions on where young people should go to college. Parents talk with other parents, students with their peers, all passing along rumours and myths, hopeful incidents and horror stories.

A college is often judged good or bad on the basis of personal anecdotes — much as airlines are deemed well-run or terrible on the basis of one's experience on a single trip. Colleges, of course, are aggressively engaged in self-promotion. The number of traditional college-age students has declined, and the drop will continue well into the 1980s. Using computer print-outs of mailing addresses, prospective students are flooded with promotional literature. The year before graduation, high school students, especially the gifted ones, can expect to spend much of their free time opening mail. Indeed, some compete to see who can build up the largest pile of unopened college envelopes.

Then there are the high school visits by college representatives. As many as several hundred recruiters may come to single districts. At "college fairs" they have separate booths videotaping playing and banners waving. One college in New Jersey has a travelling van, put on site at college fairs, where prospective students can get an immediate review of their high school transcript and, if fortunate, an on-the-spot notification of acceptance to the college.

Institutions also hire public relations firms. "They help define our mission," said one administrator, and they also design slick college brochures. "Students are impressed by water," said the representative of one such firm that advocated placement of a water scene in a pictorial presentation of a particular campus. Never mind that the nearest body of water was 20 miles from campus.

Commercial publishers are also getting into the college selling business. And the hard-sell, by colleges has forced students to turn to other sources for advice. More than 25 college guides are now printed for national distribution. There is one 1,000 page guide, another \$99.50 comprehensive reference book, and yet another guide with a monthly update "to bridge the gap between revisions of the guide."

There is something called an "insider's guide to the colleges" and, for the outsiders, there are guides such as a Southern's guide to Northeastern colleges. There is an everywoman's guide and a black student's guide, and a guide that compares kosher food on campuses.

The field is getting so crowded and confusing that a major magazine has published a guide to the college guides. These publications tell a larger story. They suggest that the traditional means by which colleges are measured have lost considerable credibility and that attention has shifted to external, informational yardsticks — measures over which the academy has little or no control.

Historically, the academic status of a

college or university has been determined by a process called "voluntary accreditation". Institutions of higher education have joined together to assess themselves. There is a widespread feeling now that this process is weak and self-serving — not sufficiently revealing of deficiencies or strengths because educators are unwilling candidly to judge each other.

Students and their parents do not find accreditation very helpful, since it is a ranking all but the weakest colleges have achieved. If the academy does not show more willingness to monitor its own behaviour, quality control may continue to pass to commercially motivated "experts" beyond the campus.

Locating money — grants and loans — is, for many students, also an urgent need. Here again outside advisory services have stepped in. For free, one commercial firm guarantees to find applicants at least five sources of financial aid. If these five sources cannot be found, the fee is refunded. (This company's data bank has information on over \$3.5 billion of available financial aid.)

All this flurry of activity leaves the observer momentarily amused but persistently perplexed. Should colleges be sold like automobiles? Has expediency overwhelmed integrity?

All who care about the traditions of American higher education must be concerned with the excess in college marketing today. I am particularly troubled by two main problems. One is that the attention of recruiters all too often is focused on those students who need it least.

College promotional programmes would be more attractive if they sought to serve the economically and educationally disadvantaged students. Blacks, Hispanics, Puerto Ricans and Native Americans are minority groups still underrepresented in American colleges and universities. An active promotion of higher education in those sections of our cities and in rural areas where these people live would be a service to the nation as well as to the college.

No less important are working adults and older people who want to upgrade skills, be retrained, or reach out for education in areas of personal interest. These persons are a tremendous resource for the nation. Business and industry officials should be contacted by colleges to arrange for the continuing education of workers. College recruiters should go to neighbourhood community centres and into retirement communities to present the challenge of lifelong learning.

The second crucial concern is that colleges and universities may get so enamoured with marketing that they lose sight of their essential goals. They win the battle, perhaps, of obtaining more students, but lose the "victory" of educating them well — be they traditional students or bypassed population of minority learners and adults.

Survival without a sense of mission is hardly preferable to extinction — indeed, it may be the forerunner of extinction. The ultimate loser would be a society where students are trained but not educated, sure of their individual interests, but ignorant of shared purposes and ideals.

Americas colleges and universities need an inner compass of their own. They must perform an integrative function, concerning themselves not just with information and knowledge, but with wisdom. As we find effective ways to tell students of all ages how higher learning relates to the quality of their lives and to the future of the nation, then colleges will sell themselves.



J. K. Galbraith: "one is forcibly struck by the persistence of his economic analysis".

Going in the right direction

A quarter of a century ago, John Kenneth Galbraith's *The Affluent Society* held its place on the bestseller lists for some 30 weeks. I quote from the blurb for the Pelican paperback edition currently in print. It goes without saying that a book, any book, about that dismal science economics, which can do that has done plenty to earn the lasting reputation *The Affluent Society* has enjoyed.

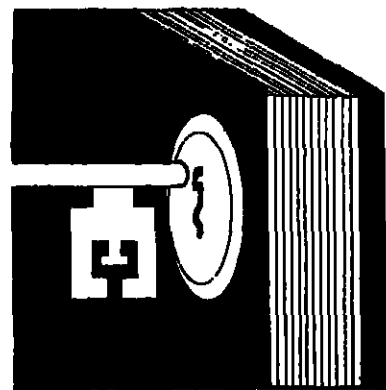
It is hardly likely in the nature of things that a book written vigorously and often with tendentious intent 26 years ago could retain the gripping incisiveness and controversial argument which secured it that long run in the bestseller lists if released today. The world has moved along, and in more than one footnote to later editions, Professor Galbraith hints that some of the directions taken were influenced by his thoughts. He has a right to do so, since his work was often cited in committees of state legislatures, for instance, urging the adoption of higher sales taxes on private consumption to provide extra revenues for public services.

This example goes to the heart of the case made in *The Affluent Society*. In the 50 odd years before its publication during the arrival of affluence in mass America, the substitution of the problems of affluence for those of subsistence and even survival had left one yawning gap. The book is probably best known for its characterization of this gap as "private opulence and public squalor". Galbraith argues with force and conviction that the paramountcy of increasing productive output as the economists' (and therefore the politicians') major measure of economic success has released other measures of success, including especially public services and education into an underserved and potentially damaging second place.

Reading Galbraith today, one is forcibly struck by the persistence of his economic analysis, even though he constantly emphasizes that he is challenging at almost every point "the conventional wisdom". How enraged would the author be (no doubt, is over there are Harvard) at the endless relaxation at every economic summit meeting, and in innumerable political and economic pronouncements of the need for more economies in the area of his "public squalor" in favour of more incentives and lower taxes for the employers of his "private opulence".

One is also struck by the importance Galbraith records as attaching to recession or depressions in business activity. Writing during the all too brief flowering of the affluent society — at least that aspect of it which produced, perhaps for 25 years or so the dispensation of full employment in the industrial countries — he writes of the devastating effects on employment of the recessions of the inter-war years. In spite of many revisions in the 1979 edition, there is no whiff of the onset of the problems thrown up by the recession which was already under way, but could not be seen off in the 1960s.

Reading in Europe, especially, may find Galbraith's interest toward the close of this book in what he calls the



Dominick Harrod takes another look at J.K. Galbraith's *The Affluent Society*

"New Class" of people — who have escaped "work qua work" for job satisfaction in non-manufacturing, non-industrial jobs — somewhat remote from the present concerns of politicians and planners alike to find any kind of occupation for the rising number of the unemployed, especially the young.

Even here, however, Galbraith is saying in other terms what has become the conventional wisdom, that recovery in activity toward full employment will have to come from "services" rather than manufacturing industry in the mature industrial nations. He can be absolved, however, from total identification with this branch of received wisdom by his central stance that people should be engaged in such public services as school-teaching and health care rather than in private services.

This brings up another crucial aspect of his thesis, that investment in new production — in an affluent society in which many new needs are created (synthesized, he says) only by advertising and marketing — is now of marginal use. Instead, investment should be in people rather than things, in public rather than private goods.

His attack, fundamentally, is on the state of affairs in which employment, the achievement of economic goals, and prosperity is measured by ever increasing production of goods — and these by the private sector. On a state of affairs in which economic security has come to depend on the continual increase in production, even if much of the demand for such goods as a new car every second year, more and better televisions, etc, etc, is created by the very producers of the goods themselves.

His disparagement of this merry-go-round of production, creation of demand, and then yet more production might be judged to have rung a louder bell with the clamour of the post-war boom — who, in their mass demonstrations in the America of 1968 showed many signs of sharing his rejection of the then prevailing business ethic of "more is better", than with the present generation faced with the tail end of a recession, new technology reducing job needs in some sectors, and the continued implacable opposition of many in Government and out to appropriate public provision.

The author is economics correspondent for the BBC.

The scientific Cinderellas

Peter Campbell examines why we should not put our daughters — or sons — into science

When my daughter, at the age of 12, showed signs of wanting to be a ballet dancer, I recalled the advice of Noel Coward to Mrs Worthington. Coward rightly took the view that a life on the stage, while rewarding for the successful, was far too risky for the average. What worries me now is that many of my colleagues feel the same about a scientific career and are speaking to their children in the same vein. As we move into the routine of the academic year it might be useful to consider whether such a dismal view is justified, or if it is, whether it should be a matter of national concern and whether there are any remedies that could be recommended.

If I look back over the last 30 years I see that the pattern of employment in terms of tenure has remained stable except in one respect. So far as the universities and the Medical Research Council are concerned there have always been more untenured posts than tenured ones. The Agriculture and Food Research Council has been different in that their posts have borne a closer resemblance to the Civil Service.

The change is in respect to the decrease in the proportion of tenured posts. Until the initiation of the new blood lectureships, there were very few new academic appointments and even new blood had done little in quantitative terms. The reduction in the proportion of tenure posts has had a bad effect on morale for, whereas in the past it seemed worth risking an untenured post in the hope that a lectureship would eventually become available, the hope now is very slim.

The image of Sir Keith Joseph and Parliament giving priority to the reduction of the existing guarantees to tenure does nothing to raise morale.

Thus for the great majority of academic research workers, the routine is to take one short term post after another, usually at intervals of three years, until the critical age of 35 is reached when no one wants to employ them. Even to keep in employment the scientist has to be prepared to move and the expenses that this incurs are seldom paid. The problem in holding together a family under these circumstances can easily be imagined.

Another negative factor has recently been given prominence. I refer to the failure of the research councils to fund the alpha projects in the perception assessments of grant applications. This has applied to the Science and Engineering Research Council for some while but recently it has hit the MRC with a bang. The reason for the disquiet is that it is now realized that even really talented people do not

stand much chance of support. The net result of present trends in the employment of scientists is that, apart from the Civil Service, industry seems to be the most stable employer; in fact industry represents the only chance for a scientific career. Fortunately the prospects, at least for biology, have substantially improved in this respect.

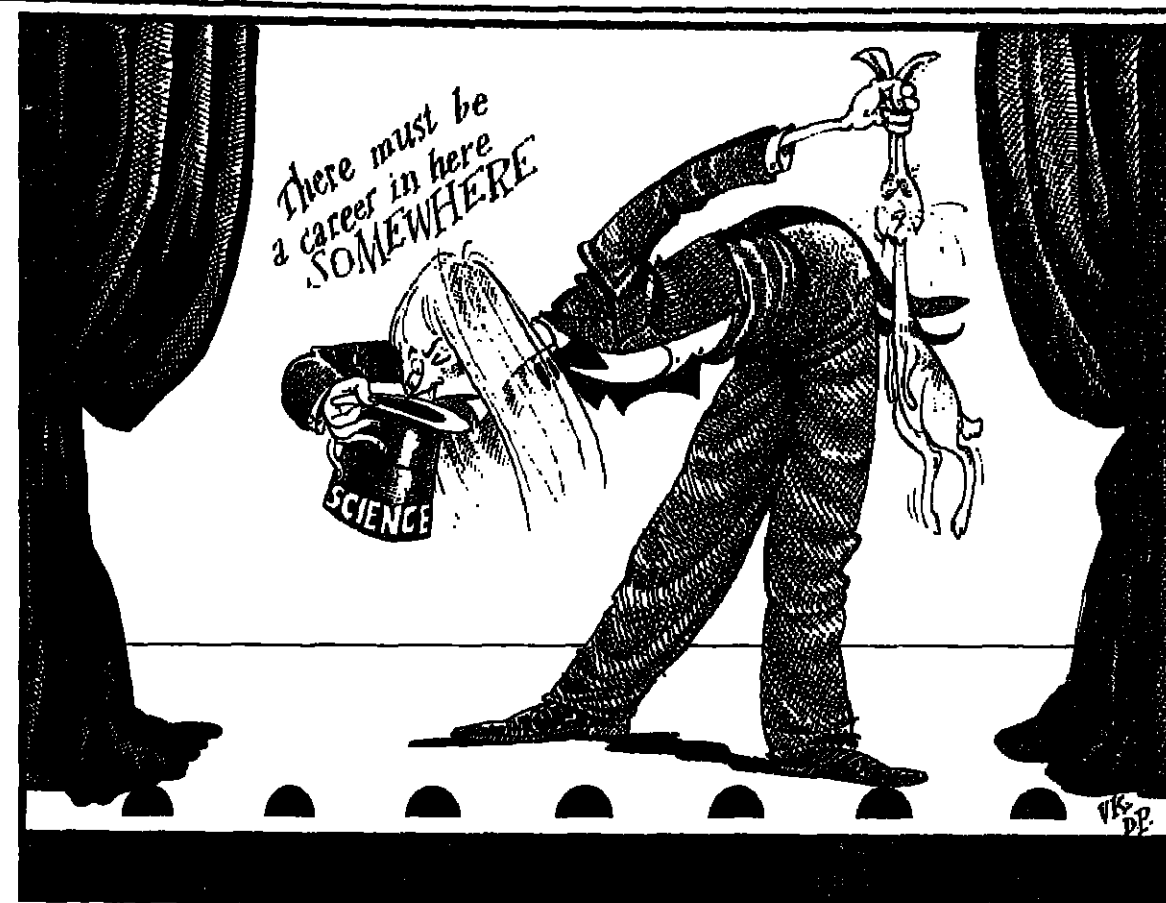
I was told, when I worked in a factory for Standard Telephones and Cables, that scientists cannot expect to earn much since they enjoy their work. In general it is true that money is not the predominant incentive as it usually is in a medical career. Nevertheless the situation for academic scientists has markedly deteriorated in recent years especially in comparison to the other professions. It is not easy to understand why medical should earn at least 50 per cent more even though they work hard during unsocial hours.

Moreover the revival of industry's interest in science has shown up some major discrepancies. It is common to hear of heads of large academic departments moving to industry at a salary which is at least 50 per cent more than they get in a university, even leaving aside the provision of a car. The reports of television technicians and dock workers earning £24,000 plus, must have touched a raw nerve in many an academic scientist's heart.

What then should one say to a youngster who shows an interest in a scientific career? Should one follow the advice of Coward to Mrs Worthington? The first thing to say is that scientific research is a really rewarding experience for the talented and successful scientist. Most of us recall halcyon days when we were grateful that we were doing research but one should not assume that the wife and family will necessarily share the enjoyment. Second, I believe that really talented people will always flourish. But if the youngster is only average the struggle is going to be full of disappointments and the financial rewards minimal. Worst of all there is really no career structure which allows the merely average person to tread water in mid stream.

The outlook for academic scientists is therefore grim. Should the Government be worried? It might well be argued that the move of talented people to industry is good and that we simply cannot afford to support a lot of scientists working up in low paid jobs doing mediocre research. Against this I think the country should be concerned for the following reasons.

One often hears it said that we should concentrate our efforts on the



really outstanding scientific research and cut out the mediocre. This is an unrealistic dream because research is a long-term venture and it is not possible to predict with certainty the future of a project which seems interesting. Moreover the exploitation of a good idea involves a lot of painstaking research best done by people who may not be that original but are dedicated, skilful and honest. It is just such people for whom there is at present no career.

While the situation languishes here, the Americans and the Japanese expand their science space. There is increasing evidence of a renewed emigration to the USA and it is not likely that such talented scientists will return. The records kept by the Biochemistry Society clearly support the trend which many have personally detected.

There is no way that our biotechnology industry could have expanded in the last few years if there had not been available good scientists with many years of experience of research in our universities and research councils. In short therefore I submit that the Government should be concerned about the demise of academic careers for scientists. What could be done about it?

The problems that have arisen here are not of course peculiar to this country. In West Germany from the evidence of your columns and from no lesser person than Professor Heinz Staab (the president of the Gesellschaft Deutscher Chemiker writing in *Chemistry International*) it would seem that the universities there continue to expand especially in chemistry even though the employment prospects cer-

tainly do not support the policy. In France the recent decrees of the Mitterrand government appear to have given tenure to most people either in the universities or in Government agencies. A recent visit to Moscow confirmed that the USSR is going for a major expansion of the institutes of the academies and there seemed no shortage of jobs. Indeed the young post-graduates and postdoctorals at Moscow University in contrast to ours, seemed very happy about the security of their jobs. The policies of the governments mentioned cannot be wholeheartedly recommended so what should be done here?

Any improvement would naturally involve more money but in addition some change in our organization with the object of providing a career structure for academic scientists. The main problem of finance for the research councils stems from the increase in the sophistication of scientific research. It follows that one has to find more money than the inflation factor even to keep still. How much more, needs to be properly assessed and presumably would vary according to the field of research. The aim should be to maintain research activity in academic establishments at say the level of 1980. One factor which increases the cost of research is the annual increment in the salary scale. It has for long been my view that the lecturer scale of some 16 points is too long, no scale should exceed 5 points after which the person should be considered for promotion. This should be part of the bargain for obtaining more money. This might be adopted in the science and medical faculties of our universities but not in

the arts faculties. This would help raise the average salaries of scientists to help close the gap with salaries paid by industry. But it should be noted that higher salaries would only be paid to those who had succeeded in a peer review.

Concerning a change in organization there is considerable advantage in the development of the system of the MRC university research units. These have been outstandingly cost effective and are also fairly flexible, in that they can be closed down when their further existence is not justified by a peer review. There is little to be said for the development of large research institutes as seen in the USSR or even in the AFRC in this country. The MRC has also supported external staff in the universities. These people, while employed by the MRC, are provided with bench space and facilities in university departments in return for a little teaching.

What I envisage therefore is a substantial increase of research council units and staff in our universities. The scheme would obviously involve all the research councils. Naturally the salaries of such people would be in line with university salaries. The outcome would be a proper career for talented academic research scientists.

The present situation is depressing in terms of the future careers for academic scientists. Nationally, this does matter and urgent consideration should be given to ways to create a proper career structure for academic scientists.

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Must you believe it . . . ?

Williams is always late; we are the most highly taxed nation in Europe; redheads are notoriously bad-tempered; don't confuse me with survey techniques, my mind is already made up.

"Of course we all argue in this way occasionally," said social science inventories have been around for some time and we should be getting better at using them by now. Apart from anything else, they are surely to everyone's advantage. How miserable it must have been in the past to be perpetually haunted by threatening hearsay handed down as if it was Gospel truth (including, of course the Gospel itself). John Bunyan is a particularly bad offender here, but his "true" stories like the one about "Dorothy Mately, an inhabitant of Ashover, in the county of Derby".

One George Hodgkinson apparently witnessed her on March 23, 1640 (more compelling exactitude) first stealing two pence then a shilling. But when the hit's between the teeth and the going looks good for running a personal hobby horse, such qualifications are irrelevant. And so, the tale in Italy is always late; Shirley

digged up and found about four yards within ground, with the two single pence in her pocket."

The Life and Death of Mr Badman is crammed with horror stories like this, all aimed at readers with no training or experience in the various modern techniques of scientific scepticism. Two centuries later, the same harassed readers could trundle instead at Dickens's prose to *Black House*, whereas he insists on the possibility of spontaneous combustion in those who drink too much, only leaving "a stinking, sickening oil". "There are about thirty cases on record." But if people are less generally credulous now, we still remain suckers for urban myths, newspaper gossip and unconfirmed rumours. I expect that John Bunyan could still make some headway today with a fundamentalist evangelical campaign couched in seventeenth century tall stories, and Dickens with an occasional column on alternative medicine.

Let's not be too severe. Strict application of Social Science techni-

ques would be bad for the art of conversation, and day to day existence continues at times to resist logical patterns. It's said that certain people appear to have more luck in games of chance than others (and it's a social psychologist who has claimed this) while other individuals occasionally have uncanny ways of making their most obvious delusions come true.

I was reminded of this on a holiday in Moscow, when our group was shown an ancient fortress with immensely high walls quite dwarfing the main buildings inside. "That's all due to the whim of a certain Tsar," explained our superior young guide. "He was paranoid, and such walls were erected to keep out his imagined enemies."

"What finally happened to him?" I asked. Our guide sniffed. "He was assassinated," he said shortly, shepherding us back to our coach.

Nicholas Tucker

The author is in the school of cultural and community studies at the University of Sussex.



John Bunyan: bad offender



Charles Dickens: urban myths

Saddled with her own bravura

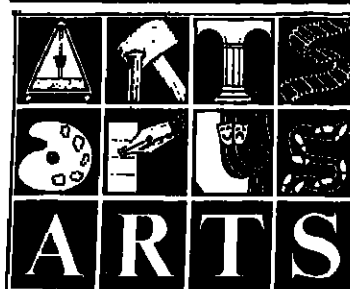
Directing Judi Dench in *Mother Courage* has for three years been Howard Davies' ambition. The time-lapse is significant since during it Davies has directed *Macbeth* for the Royal Shakespeare Company; and interestingly, it is in terms of *Macbeth* that he defines his sense of the structure of Brecht's play. Like *Macbeth* *Courage* is, he feels, trapped in a rut by the irreconcilable consequences of certain moral choices. After the death of her son Swiss Cheese, whatever her apparent successes, she is caught in an ever-declining trajectory. Her cocky resilience is no protection; on the contrary, as Davies eloquently puts it, she is "saddled with her own bravura".

It is perhaps this sense of a parallel with *Macbeth* which brings to Dench's portrayal of *Courage* a darkly brooding intelligence. Where some actresses have tended to stress *Courage*'s lust for life, Dench offers a woman of profound insight, whose energy is an escape from the pressures of her own awareness of the true nature of warfare and her part in it, one who cannot resist the challenge of bargaining as a display of her virtuoso wit even while knowing that this is prostituting her real power of mind. There are some wonderful moments of stillness in the performance when *Courage* seems weighed down by the burden of her conflicting selves, never more so than in the interminable waiting in hope of Swiss Cheese's reprieve while grimly certain that she has haggled too long over a bribe and that the drums will beat to announce his execution.

Courage's refusal to identify her son's corpse and her ensuing decision not to complain to the authorities in her "Song of the Great Capitulation" convey the paradoxes of this woman's temperament with pitiful clarity. Davies admits that the production does not yet sustain this play of paradoxes as successfully through the second half. When her daughter Katrin is mutilated, *Courage* bursts out "To hell with bloody war!" yet within

seconds she is rounding on Katrin and the Chaplain: "I won't have you lot running down the war to me!" The irony is telling but the staging does not adequately enforce it. Davies hopes to achieve an image of the weary retreat of *Courage*'s wagon through the mists from the battlefield to be followed almost immediately by a decisive, plunging return; but the mechanics of the set currently necessitate a delay which dissipates the tension and blurs the meaning. But that, Davies says, will be remedied.

What impresses in talking with Davies is this feeling for a production as a continually evolving entity. It was as late as this August that he persuaded Barbara Brecht to agree to risk a production with new music that aimed to catch the spirit of her father's original and not merely imitate the *Mother Courage*. Davies honestly admits that his earlier staging of *Days of the Commune* failed for being too derivative. The Brechtian idiom is too much a part of our theatre language now for it still to shock and disturb. Davies delights in the present RSC company as an ensemble, especially for their confidence in playing together that allows them to improvise in response to their perception of audience reactions. His production can sustain a rigorous unsentimentality as a consequence. Davies recalls a performance when Zoe Wamaker as the mute Katrin sensed her frantic efforts to prevent Swiss Cheese running off with the cashbox were arousing too much sympathy so quite spontaneously slipped him hard to realign the balance. Over the week of previews and the opening night it was interesting to see how Judi Dench varied her handling of *Courage*'s denial of the dead Swiss Cheese. Detecting a marked antipathy in the audience one night, she drew herself up, shrugged her shoulders, tightly round her, quickly drew two deep breaths and turned back into the action, a figure at once vulnerable and controlled. When two



Richard Allen Cave talks to Howard Davies (above, with Judi Dench) about his new 'Mother Courage' at the Barbican Theatre

nights later the response to her was more emotive, "tragic", she kept hunched over longer than swung up spitting ferociously about the retreating soldiers before turning her attention vigorously to the wagon. Brecht worked to find significant gesture in production; it is a remarkable achievement of Howard Davies with his actors that they are so attuned to the narrative and thematic import of the play that they can sustain this degree of creative freedom.

Repeatedly too Davies's visual images reinforce the play's analysis of the realities of war: the Cook (Trevor

Peacock) like a demented music-hall comic pounding away his last energies in "The Song of Solomon"; *Courage* and Katrin peering from behind their cart at a farmgirl singing and washing her hair, war-torn refugees confronting an innocence and naive security they have forgotten or never known before scuttling away ashamed at their intrusion into such calm. Effortlessly Davies's production encompasses both epic and detailed perspectives, which is the challenge of *Mother Courage*.

Dr Cave is reader in drama at Bedford and Royal Holloway Colleges, London.

The spaces between people

James Tissot
Barbican Art Gallery
until January 20, 1985
Whitworth Gallery, University of Manchester
February 1 to March 16, 1985

Degas wrote to James Tissot in 1874, asking him to exhibit with the Impressionists. "Forget the money side for a moment. Exhibit. Be of use to your country and with your friends." Tissot, who was fast making a name for himself in London's art world, turned Degas down. Doubtless he felt that the association with such scandalously *avant garde* painters would jeopardize his status in the English market. This episode helps to explain much of the distrust with which subsequent generations have approached Tissot's work. Branded as a commercial artist, a man with great talent as a painter but the soul of a dealer, Tissot's paintings have been classified as *objets de luxe*: fashionable and elegant mementos of nineteenth-century society, perhaps, but not serious art. The Barbican's excellent and well balanced show partly confirms this prejudice, but it also reveals Tissot as a rather more complicated and interesting artist.

Tissot is hard to fit into any of art history's cruder categories. Born in France, he spent an important part of his career in England. Geographically evasive, he also occupies a curious artistic no-man's-land. Tissot began his career as a painter of "modern life" after an uncertain start, when he painted a series of rather trite, pseudo "primitive" history paintings. As one of a generation of *peintres-fidèles* which included Manet and Degas, he would spend most of his life reworking subjects that derive ultimately from the Rococo; the Impressionists' world of leisure, of concerts, social gatherings, and *déjeuners sur l'herbe*, is also the world of Tissot. But while the more radical Impressionists would abandon "story" altogether, Tissot never shook off his academic past and his paintings remain essentially narrative. After all, especially in England, paintings that sold nearly always told stories.

But while Tissot's paintings adopt the traditional framework of narrative works, they fascinate by their subtle subversion of our expectations. His finest paintings are perhaps the series of melancholy romances and conversation pieces he painted in England in the 1870s. Because many of them are set in London's docklands, the contemporary press christened him "the Watteau of Wapping". If one excuses the glib alliteration the description is remarkably apt. Like Watteau, Tissot is a master of the allusive posture, the suggestive tilt of the head, the direction of a glance. But also, and surprisingly for a nineteenth-century painter of sentimental narratives, Tissot charges his scenes with a disturbing emotional ambiguity which makes the Watteau tag all the more appropriate. *The Ball on Shipboard*, surely his masterpiece, is a troublingly fragmented image of a supposedly festive occasion. Its composition is daringly centred on a void, an empty expanse of deck that reinforces our awareness that here Tissot's figures are incapable of communication. In the foreground a young woman gazes past the spectator as if awaiting a partner, while in the midground two young ladies and an elderly man stand mute, their faces mutually averted.

Tissot at his most personal is a painter of awkward silences, of the spaces between people, his art predicated on the dissonances that disturb "modern" society. At his worst, he is banal, garish or sentimental. His best paintings are subtle and interesting enough for us to forgive his frequent awareness of the marketplace.

Andrew Graham-Dixon
Detail: "The Ball on Shipboard"

BOOKS

A broadening of perspective



by Kenneth Thompson

War Diaries: Notebooks From A Phoney War 1939-40
by Jean-Paul Sartre
translated by Quintin Hoare
Verso, £14.95
ISBN 0 86091 087 3
Sartre and Marxist Existentialism: the text case of collective responsibility
by Thomas R. Flynn
University of Chicago Press, £21.25
ISBN 0 226 25465 8

The 34-year-old Jean-Paul Sartre, who received his call-up papers after the German invasion of Poland on September 1, 1939, had already made his mark in literary circles with the publication in 1938 of *Nausea* and was in the running for several top literary prizes. Military service seemed likely to interrupt his writing, but in fact it simply stimulated him to write more, filling many notebooks. It has to be said that Sartre's *War Diaries* are a delight. The experience of living at close quarters with a group of men from diverse backgrounds, separated from his intellectual friends and lovers in Paris, led him to chronicle his observations and feelings in a rich mixture of analysis of himself and others, blended with technical philosophical analyses that furnished raw materials for many of his subsequent works.

The result is a highly revealing and finely written dossier on Sartre the man and his philosophy. Both are captured in a series of snapshots, *en acte*, in the process of becoming, not having reached their subsequent more polished form and image. Even the snapshot on the cover is revealing when "read" in conjunction with the acknowledgment of Sartre's role as a member of the meteorological corps, looking through an instrument at a weather balloon held by his colleague "Paul" somewhere in Alsace, during the phoney war period of 1939-40. Much of the discussion in the notebooks is about Sartre's relationship with Paul and his colleagues, in which he seeks to use all his philosophical acumen and literary skill to depict and analyse those characters and their relations. The irony is that the acknowledgment of Paul's permission to use the snapshot notes that "The latter wishes it to be known that he has written for eventual publication an account of the relations within their unit and a portrayal of the personalities involved that differs sharply from Sartre's own."

One can understand why Paul might be unhappy with Sartre's portrayal of 'his companions' characters and their relations. Sartre himself admits in the notebooks that he constantly preached at the others and accused them of bad faith and he notes that Paul had begun to counter-attack and to reproach him in return for that fault. Paul was unfortunate in that he was the closest in social status and political allegiance (so he thought) to Sartre, and so drew the most criticism. Sartre admits that he was much more tolerant of the most proletarian of his companions, Grenier, whom he describes as a "great coarse, brutal man - to whom belching and farting came as naturally as breathing" but towards whom he was prepared to "act the whore because of the working class in the abstract had not prepared him for the experience of living at close quarters with one of its members who on waking up, 'turns to face the wall, undoes his fly and pisses'."

It does credit to Sartre that he was prepared to set all this down, even when it does not present him in a favourable light, knowing that it would be published some day. He was more concerned that his generation and his friends should not be judged as having failed to be serious or solid enough to prevent the war; their sexual freedom should not be mistaken for a lack of morality. As for himself, "Examples drawn from the half-confessions of this very notebook will be brought up against me", but he added, "I can endure hard blows. I know, too, that I have a concern for morality. I've tried to destroy plenty of old ideologies, but my concern was to build. I may have lacked 'roots', but I've never lacked stability."

The war was a turning point in Sartre's life and in his philosophy - not so much a rupture, as has sometimes been suggested, but a broadening of his experience and perspective. It added to his concern with problems of the individual a concern to understand the social phenomena in a way compatible with a continuing allegiance to the idea that the individual must accept full responsibility for what he is. His struggle, chronicled in these notebooks, to develop a method for explaining the causes of the war and for understanding his experience of group life, led him towards existential biography, drawing on sociology, psychoanalysis and phenomenology. The brief sketch of this method that appears at the end of *Being and Nothingness*, published in 1943, is anticipated in these war diaries. His growing awareness of the effects of

social conditioning was to lead him to the later reformulation of his idea of individual responsibility, encapsulated in the phrase: "A man can always make something out of what is made of him."

Not only do the notebooks reveal Sartre struggling even at this early date with the problem of individual freedom-responsibility and us to mark precisely the beginnings of Sartre's application of the existential biographical method to the explanation of historical events, and they disclose the sources on which he drew in developing his method prior to his postwar engagement with Marxist ideas. Sartre recalls that he and Simone de Beauvoir were wrestling since September 1938 with the problem of how to grasp the causes of the war which loomed. Thomas Flynn, in *Sartre and Marxism: Existentialism*, speculates that Sartre may have been influenced by Max Weber, among others, in resolving the freedom-necessity dilemma, especially through the concept of "objective possibility", which expresses the notion of the rationality of effective means to real or presumptive ends and functions as a form of causal imputation to distinguish "adequate" from merely "accidental" causes of historical events. A further Weberian pre-occupation that might have had an influence was his insistence that sociological explanation must relate to the self-conscious actions of the individual people.

Flynn confesses that he is unclear how directly Weber's work was known to Sartre, although Sartre's early friend Raymond Aron did much to introduce *Verstehende Soziologie* into France. The war diaries provide a clue when Sartre states that he accepted "Weber's formula taken over by Aron" as a cause is identified if one can establish that, in the absence of a particular phenomenon, it's most likely that the phenomenon in question won't occur. However, this still left the problem of how the causal chains on different levels were to be coordinated and ordered; despite all the determining social conditions, Hitler still had a free choice between peace and war on various occasions. The answer was to appreciate that all these different levels of meaning were human, and as such produced by a human reality that "historians" itself.

He then tried out his first exercise in existential biographical analysis, using a study by Emil Ludwig of Kaiser Wilhelm II, his purpose being to see whether the different signifying layers (including the geographical and social layers) were found to be unified within a single human project, and in order to determine to what extent Wilhelm II was responsible for the 1914 war. His intention was to "outline another type of historical description, which reverses the explanation and moves from the man to the situation, rather than from the situation to the man." The result is an imaginative outline of the links between the different signifying layers - Marxist explanation of the rivalry between German and English imperialisms, pan-Germanism as the expression of Germany's tendency to complete its unification, the hegemony of Prussia as domination by a nobility of militarized Junkers - as unified within a single project, the life of Wilhelm II.

The most important theoretical revelation of the notebooks, therefore, is that they show Sartre well advanced in his "search for a method" even at this early date, long before the publication in 1960 of the work with this title, and prior to his formulation of the idea of an existential psychoanalysis in *Being and Nothingness*, where he identified such research with the recovery of a fundamental project that intelligibly unified any person's life into a coherent and meaningful whole. It has often been suggested that Sartre expanded his notion of biography to include social and historical dimensions only after he had grappled more closely with Marxism in the postwar period; thus, whereas in *Being and Nothingness* he described the fundamental project as "purely individual and unique", in the later biographical study of Flaubert, *The Idiot of the Family* (1971) he asserted that "a man is never an individual; it would be

better to call him a *singular* universal. Totalized and, by the same stroke, universalized by his epoch, he retotalizes it while reproducing it within himself as singularity". On the basis of this shift, if it was a shift, was well underway in 1940, and the following diary entry could just as well have appeared in *The Idiot of the Family*: "any description of the concrete development of an ideology, on the basis of political data, should be accompanied by a monograph on one of the most important individuals of the epoch - in order to show the ideology as a lived situation, and one constituted as a situation by a human project".

Thomas Flynn's book directly addresses the issue of the unity of Sartre's early and later work, particularly the relation of *Being and Nothingness* and *Critique of Dialectical Reason* (1960). On the whole he adopts a middle line that the later work moved beyond the earlier but did not run counter to it and that the categories of the *Critique* are different from and irreducible to those of *Being and Nothingness*, which they nevertheless subsume. He sets out to show how Sartre, by developing a theory of collective responsibility, combined the salient features of existentialism and Marxism to form a new social theory. The salient feature of existentialism, he maintains, is moral responsibility, and that of Marxism, following Lucien Goldmann, Flynn takes to be the collective subject, more specifically socioeconomic class. Sartre's contribution was to develop a social theory which combined these two elements and so provided a unique response to the perennial question of the relationship between the individual and society, which is the fundamental problem of any social theory.

Sociological critics have objected that Sartre never really overcame the limitations of the social theory of *Being and Nothingness*, which was concerned with Being-for-others, and was fundamentally an application of the dyadic relation of interpersonal relationships. While this might be adequate for conceptualizing certain social psychological phenomena of an interpersonal nature, it was inadequate in sociological terms as a basis for explaining what Durkheim called "social facts" - such phenomena as institutions with their statuses and roles, languages with their impersonal rules and structures, and collective actions, such as wars and treaties. The *Critique of Dialectical Reason*, despite Flynn's efforts to interpret it in a positive and improving way (for which he deserves much credit), remains a derivative and unsatisfactory work. Perhaps the reason for this is to be found in Sartre's own lived experience and his life project, which left him outside structured groups and institutions; by his own choice he evaded political party membership, life in the family, or work in institutions. His romantic notion of "fused groups" such as revolutionary groups like the young Maoists, could hardly provide a model for long-term collective responsibility.

Sartre's most acute observations are of interpersonal relations, viewed from the café table where he spent so much of his time, or from his seat by the stove, where he wrote the war diaries. Speech and gesture are minutely described and dissected philosophically, the implications for moral responsibility, bad faith and inauthenticity are drawn out. To return to the unfortunate Paul: he had the misfortune to be a corporal, set in authority over Sartre, and so we are treated to an analysis of the "essential structure of my relations with Paul". On the basis of this interpersonal relationship, Sartre discerns the fundamental structuring of their entire group: "He's ashamed of being leader, but nevertheless wants to make me obey him; and I'm an undisciplined soldier, who doesn't want to obey him and appeals to the socialist in him against the military superior. Around this rigid and chronic relationship (he won't give in and neither shall I) the



entire group is ordered". It may have been a phoney war outside, but by God it was real inside the billet with Sartre! Finally, it remains to pay tribute to a superb translation by Quintin Hoare. He has improved on the original by the addition of many helpful footnotes and a fine rendering of some of Sartre's best passages. This is of great value because these notebooks contain some beautiful descriptions of Sartre's analyses that equal any to be found in his published works of fiction and philosophy. To take just one example, there is his description of trudging down a muddy lane to post his letters and trying to cheer himself by summoning up a memory of a more pleasurable walk with his lover Olga Koakiewicz. But he knows that he is asking more of memory than it can deliver and so he is led to enunciate one of the central themes of *Being and Nothingness*, but in a manner with more literary appeal than in that dense work:

When the memory came, I addressed a kind of appeal to it: 'I'd have liked to be coloured discreetly, to lift me out of my filthy-dirty soldier's skin. And, in a sense, it responded well; it yielded to me as much as it could; like the Old Woman Who Lived in a Shoe it opened itself up to me and let a whole crowd of other little memories escape. But it didn't do what I was asking of it - it didn't act upon me. What I wanted to be, basically, was the man who lived that night. I didn't just want it to be before me, like a fragment of lost time; I wanted my former passion to be in me like a virtue. I precisely wanted that time - lost, but experienced with so much force - not, precisely, to be time lost. To be frank, I wanted it to 'do me good', as when people say 'Eat up, it can't do you any harm and it'll do you good'. I felt so frail and sickly on that muddy path, so much the soldier off to post his letters and nothing else - that I'd have liked to fatten myself up with all my past loves and woes. But in vain: I felt totally free in the face of those memories. That's the price of freedom - one's always outside. One is separated from memories, as from motives, by *nothing*. There's no period of life one could catch onto, as the custard 'catches' on the bottom of the pan. Nothing marks one - one is in perpetual flight. In the face of what one has been, one is always the same thing: *nothing*.

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'Alfred ordered me to be made'

The Golden Age of Anglo-Saxon Art
966-1066
British Museum
until March 10, 1985

It is somehow fitting that the first object encountered by visitors to the British Museum's *Golden Age of Anglo-Saxon Art* exhibition should be the so-called "Alfred Jewel". The little object's purpose is still not fully established but its Merovingian inscription provides a fair enigma to the whole collection: "Alfredus Rex Hanc ornavit". "Alfred ordered me to be made".

Alfred died at the threshold of the tenth century and so comes before the bulk of the work on show. He had defeated the Vikings and begun the political and cultural unification of England (Merovingian words and Carolingian craftsmanship on the Jewel suggest his reach; Alfred's Wessex was the heart of the new nation.) He had ordered the translation of the "books most needful for men to know". Gregory's *Pastoral Care* and Boethius's *Consolations of Philosophy* came from his own hand and they help underline the degree to which English culture, focused on the Church, was far from

being isolated or provincial. Alfred's England was part of Europe. From his death until the Conquest English art enjoyed a dramatic flowering. The immediate occasion for the BM exhibition is the millennium of the death of St Aethelwold, bishop of Winchester and builder of the great cathedral there. His *Benedictional* - a group of texts for the Frankish (ie non-Roman) rite of pontifical blessing - is one of the most dramatically beautiful of Anglo-Saxon manuscripts. Aethelwold "commanded also to be made in this book many frames well adorned and filled with numerous beautiful colours and with gold". There was nothing stunted or "primitive" about Anglo-Saxon art.

The range of artefacts on show is remarkable, though there are in all only about 300 separate exhibits; the overall impression is intimate and detailed rather than expansive and archaeological. In addition to liturgical texts, there are lay documents and literary manuscripts, herbals, wills, homilies and riddles (from the *Exeter Book*). The tenth century saw the anthropologizing of some of the best Anglo-Saxon poetry notably *Beowulf*, which may have been composed orally as early as 600 - and the writing of *The Battle of Maldon*, still a

powerful and remarkable example of literary use of recent history. Fate has been less kind to manuscripts than to more obviously durable objects. Religious history dealt harshly with a great deal of Anglo-Saxon church art but sufficient survives to be able to present a clear enough impression of the cultural output of the time and the coincidence of artistic and religious concerns. Most of the surviving objects have a court or church provenance; in addition to crosses and reliquaries, rings, strap-ends, brooches, mounts and buckles, all carefully and expensively wrought in gold and copper, or in carved walrus; a wide range of coinage (with stylized, Rome-influenced portraiture) suggests a country on the brink of modernity.

The exhibition is mounted in such a way that chronology and the provenance are maintained. The BM's new wing gallery takes on an atmosphere somewhere between the antiseptic and the sepulchral (though safety and conservation obviously have to be observed). Rather tiny objects can be lost in large cases; close lighting aid, in most cases, viewing from both sides at eye-level, do help but there is still something to be said for flat-bed display cases.

Brian Morton

Events

Concerts:
Tomorrow, 2.30 pm. Great Hall, University of Nottingham. Jennifer Bate gives an organ master class.
Tomorrow, King's Hall, University of Newcastle. Cappell Novocentrals in a programme of Byrd, Howells, Browne, Corry, Tallis and Elgar.
Tomorrow, Great Hall, Goldsmiths' College, London. Solomon Orchestra, conducted by Nicholas Braithwaite, perform Alban Berg's *Lulu Suite* and Mahler's Fourth Symphony.
Sunday, Triangle Centre, University of Aston, West Midlands National Opera Workshop of *Don Giovanni*.
November 30, Stamford Hall, University of Leicester. Singcircle, directed by Gregory Rose: *Silencing by Stockholm*.

November 30, Recital Room University of Reading. Heather Harrison (cello) and Geoffrey Pringle (piano): Bach, Faure, Casella.
December 1, Morley College, London. Katharina Wolff (piano): sonatas by Beethoven and Berg.
December 1, Wolverhampton Polytechnic. Wolverhampton Symphony Orchestra with David James (cello): Dvorak's Concerto for cello and orchestra.
December 2, Barnfield Theatre, University of Exeter. Robert Cohen (cello) and Esther Rose (cello): Locatelli, Beethoven, Debussy, Bruch, Chopin.
December 2, Mitchell Hall, University of Aberdeen. University Symphony Orchestra: Tchaikovsky, Rachmaninoff, Lyell Cresswell.
December 3, Arts Centre, University of Warwick. English Chamber Orchestra, director Jose Luis Garcia, with Mislav Rostropovich (cello); Mozart, Boccherini, Rossini and Haydn.

December 4, Turner Sims Concert Hall, University of Southampton. Main organ, Parikian (violin) and Bernard Roberts (piano); Mozart, Elgar, Brahms.
December 6, St Martin's College Chapel, University of Lancaster. Vladimir Mikulka (guitar): Rak, Barrios, Ravel, Albeniz.
Other events:
Tonight, tomorrow, Dunelm House, University of Durham. Gurney by Jon Silkin: biographical play about poet and composer Ivor Gurney.
Tonight, tomorrow, Guilbenkian Theatre, University of Kent, UKC Dramatics in Peter Barnea's *The Ruling Class*.
Until December 1, Contact Theatre, University of Manchester. Brecht's *Resistible Rise of Arturo Ui*.
November 27 and 28, Keny Theatre, University of East Anglia, Durham Theatre Company in an adaptation of

Conrad's *The Secret Agent*.
November 28, Lecture Theatre Block, University of Essex. Readings by Eugene Ionesco, Alain Robbe-Grillet, Alan Burgin and William Burroughs.
November 29, ICA, London. *The Nasty Video Act*: debate about the Bright Video Recordings Bill.
November 29 and 30, Creative Arts Studio, Leeds Polytechnic. Yorkshire Fringe present two one-act plays, *Climbing Out* and *A Question of No*.
December 6, 1 pm. Trent Polytechnic. National Theatre. *Orestes Goldsmith: Citizen of the World*. To coincide with the NT production of *She Stoops to Conquer* at the Theatre Royal, Nottingham.
November 29 to December 4, Royal Academy of Music, London. Offenbach's *Orpheus in the Underworld*.
December 6 to 8, Walter Moberly Hall, University of Keele. Tolstoy's *War and Peace* as adapted by Erwin Piscator. Presented by the university drama society.

[illegible]

BOOKS

Cultural values

The Cotton Masters 1830-1860
by Anthony Howe
Clarendon Press: Oxford University Press, £22.50
ISBN 0 19 821894 X

For many years social historians have had their sights fixed largely on artisans and aristocrats, with the middle classes putting in an appearance as a stage army of stereotypes, cardboard figures of captains of industry, city men in striped trousers, and stern unending masters of suburban households, principally engaged in making life miserable in one way or another for the propertyless masses while simultaneously enriching themselves. Recently it has begun to be recognized that these also were people, with lives that went on outside the counting house, and with opinions and resources that made a decisive and far from contemptible contribution to society, its welfare and its institutions. Anthony Howe now makes an important addition to the slowly swelling body of serious scholarship work that is putting flesh onto the bare bones of the Victorian bourgeoisie.

His cotton masters are 351 Lancashire textile masters about whom detailed biographical information has been gathered, principally running cotton mills but also including some who were in calico-printing, bleaching, woolens, silk, and flax. The population has been determined by record-keeping, and is not a sample reflecting date, age of the master, or size or type of firm. There may be some slight bias towards those who were prominent enough or cursed enough to get themselves mentioned in the newspapers, but only a sociological purist will quarrel with the representative character of the picture presented of the top people in Lancashire industry in its period of greatest relative importance in the British economy. That picture is of a group of very wealthy men which formed an effective and cohesive industrial elite, which held together and intermarried, which thought alike and acted together on many issues, which was becoming increasingly cultivated and refined, which resisted the blandishments and temptations of gentrification and, taking pride in its industrial base and business habits, showed public spirit in turning early on to the improvement and embellishment of its native cities.

If this is accepted - and a great deal of fascinating detail is produced in support of each feature in the picture - then it marks a great step forwards in delineating that urban middle-class culture, or at least that urban haute bourgeoisie culture, which so many commentators in the past have said that Britain so conspicuously failed to produce. The much-quoted but inadequately analysed Martin Weiner thesis, indeed, states that this failure, and the surrender of industrialists to the gentry-public school culture, is

responsible for British industrial decline. Before making this great cultural leap forward, however, there are one or two minor hurdles still to be cleared, one technical and one intellectual.

On the technical level it is perhaps inevitable that Dr Howe presents statistical analyses of his whole population of textile masters only for their business and financial affairs, and for their social formation, and not for their political, municipal, and social activities, or for their attainments in social status. That is to say, there is most valuable tabulated information on size of firms, wealth at death, social origins, religious persuasion, schooling, and marriage partners, indicating what proportion of the 351 had, did, or married how much or whom, so that we know that 50 per cent were Anglicans, 50 per cent married textile wives, 53 per cent left fortunes of less than £75,000, and 63 per cent kept three or more servants. This is hard information about the socioeconomic characteristics of the group. There are, however, no figures about the politics

and the status steps into the magistracy or deputy lieutenant's position. On these themes there is a much more descriptive treatment, drawing on the material relating to those individuals who were active, some of whom were victorious over matters like the Corn Laws or non-recognition of trade unions. There is, therefore, no way of telling who or how many were inactive, whether it was the most successful in business who were the most active in politics, or whether some kind of public life was typical or untypical.

The intellectual difficulty is that further argument seems to be required before one can accept the conclusion that "the entrepreneurial middle class was freed from deference to aristocratic cultural values, however much they might share with their social betters a liking for port, fox-hunting, and billiards". They, or some of them certainly, did share these likings. A considerable minority, about 20 per cent of the group, seemed to have shared them to the point of purchasing sizable landed estates, and Dr Howe besides provid-

ing this statistic refers several times to "the drift to landownership" and the "growing social investment in landed society by industrialists". The chief point for more discussion, however, is the degree of weight and the kind of cultural interpretation that are to be put upon the life styles of the much larger proportion of the textile masters, beyond those who actually indulged in land purchase, who fancied these erstwhile aristocratic pursuits and set themselves up with country-house style mansions on the outskirts of their mill towns. It is of course questionable whether they were there by showing any deference to the aristocrats; but it is also questionable whether they were developing an independent bourgeois culture. The question will excite further contributions in the future. Dr Howe has provided an excellent instalment in the debate.

F. M. L. Thompson

F. M. L. Thompson is director of the Institute of Historical Research.

Women at war

Women of the Regiment: marriage and the Victorian army
by Myra Trustram
Cambridge University Press, £22.50
ISBN 0 521 26394 1

Myra Trustram has written an admirable account of the relationship between women and the other ranks of the post-Cromwellian army. She examines the evolution of the role of women in this period, particularly the emergence of the service family, and, in accepting that conceptions of femininity are inextricably linked to conceptions of masculinity, she avoids the feminist historian's trap of looking at women in isolation from men.

Women have traditionally provided a wide range of physical and emotional services for the military. Wives, daughters and prostitutes have traded for meat and drink; they have cleaned and mended laundry, served as cooks and nurses, and even, occasionally, fought alongside the men. During the nineteenth century, however, as the army became more organized and professional, it became more exclusively male. Women were excluded from certain tasks and were subjected to far greater regulation than hitherto. Increasingly, as Dr Trustram argues, their role narrowed to a concentration upon sexual and family services.

Army wives had always aroused ambiguous attitudes within the military. On the one hand, they were perceived as a deleterious influence upon the mobility and efficiency of the service (a feeling compounded by the state's reluctance to provide adequate rates of pay or decent barracks accommodation). On the other hand, they were recognized as a positive asset, being idealized as a humanizing influence upon the drunken soldiery and thereby a boon for the army's public image and its recruiting. Accordingly the army sought to divide women into those who were helpful to the service and those who were not.

It permitted only a small proportion of women to marry "on the strength" (a proportion reduced after the introduction of short service enlistments to all staff sergeants, some 66 per cent of other sergeants and only 4 per cent of other ranks). These marriages were accorded various privileges: wives and children could live with their husbands (although married quarters remained few in number) and they were entitled to medical provision, separation allowances (instituted in 1871 and marginally increased in 1882), pensions after 1881 if their spouses were killed in action, and schooling for the children (the army had pioneered publicly financed education in England). Wives married "on the strength" were also paid for domestic duties - washing, sewing and, to a much lesser extent, nursing, midwifery and teaching.

Marriages "off the strength" were considered improvident and imprudent, and not deserving of any privileges. Unwilling to encourage these marriages, the army forced the wives and children to live off base, often in parlous circumstances and largely dependent upon the erratic provision of philanthropic relief.

As Dr Trustram explains, the army tried to regularize its links with prostitution in a similar manner. It regarded these associations as a necessary evil since the married establishment could not be expanded significantly, and the soldier was perceived as having innate sexual passions. But the army was alarmed by the medical side-effects and sought to contain the prevalence of venereal disease by the Contagious Diseases Acts (1864, 1866 and 1869), which established a system of compulsory genital inspection in various naval and garrison towns and required prostitutes, if diseased, to be detained in hospital (for up to nine months under the 1869 Act). In so doing, the army confronted the moral and social code of many Victorians who campaigned successfully to repeal the Acts.

Dr Trustram concludes her work by briefly alluding to the relationship between officers' wives (or ladies as they were then known) and the wives of the other ranks. This would seem an area warranting further study (for example, Dr Trustram's claim that



Detail from "Summoned for Service", from *The Graphic*, 1879.

"military practice" divided these women in a male world might be challenged by those who would argue that it merely compounded the divisions already produced by their respective socioeconomic positions). She also adds a couple of pages on the modern service family, a summation which hardly does justice to one of the army's more pressing social problems. Nevertheless this is an eminently readable book, embellished with many appropriate photographs and replete with incisive comments about civil and military attitudes towards the role of women in Victorian society.

E. M. Spiers

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Questions of status

The History of The Times
Volume Five: Struggles in War and Peace 1939-1966
by Iverach McDonald
Times Books, £20.00
ISBN 0 7230 0262 2

The Times has celebrated its great tradition in a traditional way: it has called upon one of its own to write this fifth volume of its history.

Iverach McDonald served on the paper for forty years, working his way up to foreign editor, managing editor and associate editor. He knows his own profession thoroughly in a way which an outsider would find hard to match: he knows at first hand the pressures of time and space that confront all who work in the industry; he knows the way his colleagues worked and the assumptions, spoken or unspoken, which lay behind their attitudes and opinions. All this makes him a sure guide, but by the same token it means that some questions are not asked and some organizational matters not pursued, perhaps because they seem too obvious to an "insider". In general, however, the benefits of his expertise far outweigh the drawbacks attending an "in-house" operation.

McDonald keeps two essential themes running in tandem throughout his volume: the personnel, structure and organization which produced the paper, and the actual opinions expressed in its columns. We therefore get a glimpse both of what *The Times* thought about the major events of the period and of the shifting pressures - personal, commercial and technical - which lay behind the sober columns of print. There were indeed struggles, both in war and peace, but their nature changed. The history begins by returning briefly to a topic about which McDonald as a young man had strong feelings: appeasement. That debate in the office was important not only for its own sake but because it also brought into sharp focus a perennial problem.

The Times was in some sense a national institution, but was it "official"? Did it have an access and a status which was unique? McDonald shows that successive editors - Geoffrey Dawson, R. M. Barrington-Ward, William Francis Casey and Sir William Haley - all prized their independence, but that they did not necessarily mean that they understood their role in precisely the same manner. Relations with successive governments were occasionally awkward. Barrington-Ward ran into most difficulty, obsessed as he was with his own vision of "a central bloc of opinion" which would advocate domestic social reform and be willing to be "realistic" about the Soviet Union. E. H. Carr was ready to supply the necessary arguments.

McDonald sees this period as perhaps the "golden age" of British newspapers before they were challenged, later in the book, by the other media. Even in 1940, however, *The Times* actually made a loss. After the war, the issue of identity became even more urgent. If the paper did succeed in increasing its readership might it only do so at the expense of its own character? It fell to Sir William Haley, appointed in 1952, to wrestle with questions of arrangement, presentation and content. He and others set their faces against whatever financial relief commercial television might offer. The newspaper began to appear a manifestation of the conservatism which it criticized in other areas of national life. It was a model of caution in commenting on the emergence of the European Economic Community and in presenting its agony column on the front page. *The Times* made a pre-tax loss of £79,000 in 1957. Its own viability became more precarious and the history recounted in this volume moves to a climax in the search for financial safety. Lord Thomson arrives to pick up the bills, but it was galling to note that the Monopolies Commission did not think that the role of *The Times* was "in any way special".

Naturally, the last word has not been said on many of these questions but this volume is a great help in describing both what *The Times* thought of the world and, sadly and obliquely, what the world thought of *The Times*.

Keith Robbins

Keith Robbins is professor of modern history at the University of Glasgow.

BOOKS

Eastern promise

Science and Technology in Japan
by Alan M. Anderson
Longman, £45.00
ISBN 0 582 90015 8

Science and Technology in China
by Tong B. Tang
Longman, £45.00
ISBN 0 582 90056 5

In most countries science is expected to support technology, which in turn underpins our material condition. There is always a strong element, however, of national as well as individual aspirations; and these occasionally lead to a concentration on national prestige projects. Furthermore, science is also capable of shaping people's perspectives - a more subtle objective that in the long run has considerable significance.

To obtain a clear perspective of a particular country's science and technology, it is therefore necessary to amass relatively detailed knowledge of the resources available. Understanding the efficiency by which those resources are utilized also requires knowledge about the policy-making process, the institutions involved, and linkages between the various participants. Of the two countries covered by these books, the most recent additions to Longman's series on world science and technology, one has already changed the occidental perception of global technology and the other has a considerable potential to do so. In terms of research manpower, they claim to be on the same level. The countries, both located in East Asia, are Japan and China.

Japan has in a couple of decades dispelled the notion that it is a country capable of producing only cheap simple products. Today, its major industrial companies, many of which are the envy of the world, excel in the mass production of inexpensive, high-quality and increasingly complex and sophisticated products in sector after sector of the industrial spectrum. Witness, for example, their recent achievements in integrated circuits: Japanese companies now control a major share of the world in all types of computer devices. Japan's technical scientists are now gearing up for an assault on the bastions of innovativeness where the traditional industrial powers in the west still maintain their stronghold: in biotechnology and materials technology, for example. This is partly the result of improvements in basic research, and Japan is now bent on closing the gap.

China is markedly different; and not just because of its status as a developing country. More important characteristics are its enormous size, its diversity, and its cultural traditions - factors that seem to have made it extremely difficult for her to strike a balance between the different functions which science and technology are expected to fulfil.

Alan M. Anderson, Tokyo correspondent of the science journal *Nature*, has provided a well-written, concise and insightful survey of the science and technology system in Japan. Having myself recently returned from a year's stay in Japan, researching on industrial technology policies, I have found hardly any serious omissions or factual mistakes. Anderson's notable understanding of both Japan and her science and technology has clearly been living proof through his own extensive stay in Japan.

A general introduction to the country is followed by introductory chapters on the policy-making process, resources, and the structure of the science and technology system. The main part then describes in a factual and occasionally analytical way ten sectors of research programs and research institutes; and 60 pages on professional societies, Tsukuba Science City, science and technology information sources, and international collaboration. The book ends with a directory of major research establishments.

In terms of coverage and balance, there is no comparable publication in English. Although at present it is a good source of information on specific

institutes or programs, it will eventually need to be updated.

Although Tong B. Tang's book on China provides the same kind of information, this is limited to fewer sectors. A general introduction gives a fair assessment of the history of science and of governments' attempts to formulate policies for science and technology. However, although several of the succeeding chapters illuminate Chinese research past and present, information is presented in a very fragmentary way: the book almost completely lacks basic information on resources at the disposal of the various parts of the science and technology system - such as the academies, the universities, the ministries, and so on. Based on the notion that there is only one China, Tang has included a separate chapter on Taiwan.

I sympathize with the obvious difficulties Tang faced in preparing his manuscript. Whereas Anderson could draw on abundant and easily available sources - at least, for someone who reads Japanese - the Chinese sources are scattered and are very often little more than propaganda. Consequently, Tang might well have been more discriminating in his choice of relevant information, making more use of secondary sources in order to supplement the official views.

Both books share certain shortcomings. Neither provides any references,

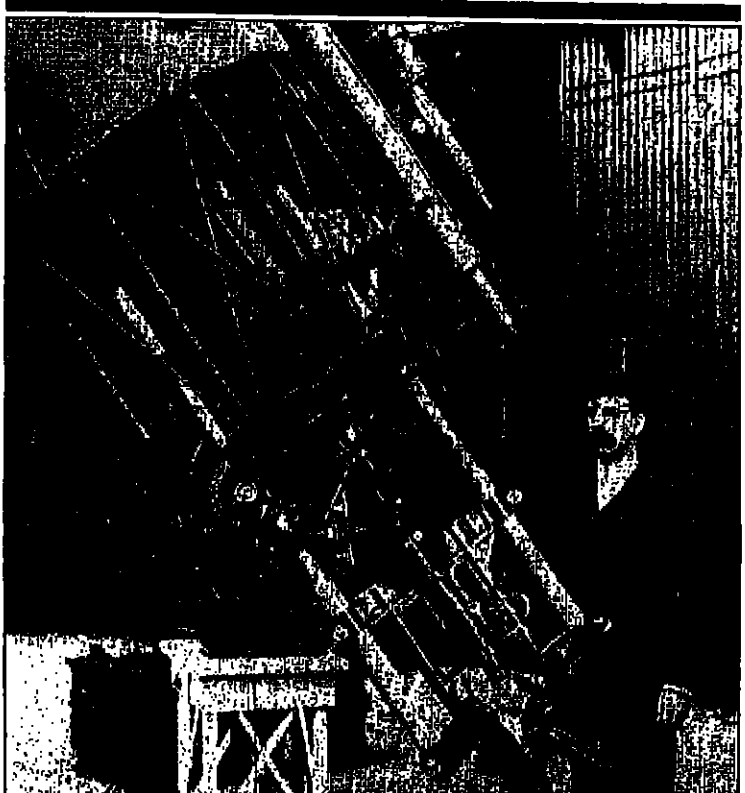
except when quoting statistics or other sources of information. In the case of Japan, additional in-depth material is abundantly available. Both books have rather weak indexes and almost completely omit many of the established acronyms.

More serious is the fact that neither author attempts to address the issue of how well the needs of the various societal sectors are served by science and technology. Although this is mentioned in passing in Anderson's book, it is almost completely lacking in Tang's. Anderson refers to the dominance of the industrial sector both in terms of finance and research manpower in Japan, but in no way does he provide comparable coverage on industry to match the information available on the public part of research and development.

In subsequent editions, Anderson's book could become an almost perfect source book. Tang's book does not compare well and may need to be completely rewritten; indeed, it may be that it is simply too early to embark on such an ambitious project for China.

Jon Sigurdson

Jon Sigurdson is professor of research policy at the Research Policy Institute, University of Lund, Sweden.



W. W. Campbell in 1890, with the original spectroscope on the 36-inch refractor at Lick Observatory, Mount Hamilton, California. From Owen Gingerich's *Astrophysics and Twentieth-Century Astronomy to 1950: part A* (Volume four, *The General History of Astronomy*, Cambridge University Press, £17.50).

Expert witnesses

EyeWitness Testimony: psychological perspectives
edited by G. L. Wells and E. F. Loftus
Cambridge University Press, £25.00
ISBN 0 521 25564 3

"Justice would less often miscarry if all who are to weigh evidence were more conscious of the treachery of human memory." So said Hugo Munsterberg in 1908, the psychologist who did more than any other to establish the field of forensic psychology, and whose words are echoed today, some 800 experimental studies later, by most of the contributors to this book. His point would be appreciated too by the various victims of misidentification and wrongful conviction, whose cases (mainly from the United States) are cited here, and no doubt the many more whose cases have never been brought to light.

The title of this collection of chapters by experts in different aspects of the psychology of evidence underestimates the scope of the book, which embraces consideration of lie-detection techniques, "ear-witness" testimony, and the use of hypnosis to aid memory. The contributors have been carefully chosen, so that the aim to provide a review of the many hundreds of relevant studies, is largely achieved. For example, the chapter by Martin

Orne and his colleagues on hypnotically induced testimony should finally scotch the notion that such testimony should ever be entertained in English courts. It also illustrates well how applied research has advanced theoretical understanding of an issue: gibberish assumptions about hypnotically-revealed truth have been ruthlessly tested in response to judicial requirements, and been found wanting.

The desirability of permitting expert testimony by psychologists when identification evidence is at issue is a recurring theme, and gives rise to some less than useful exchanges between the editors and two contributors who are not convinced that expert testimony by psychologists is yet "safe and effective." The apparent unreliability of eyewitness testimony is repeatedly demonstrated, and two chapters are devoted to showing that prospective jurors are likely to overestimate its reliability and to misunderstand the implications of factors like stress, or witness confidence, for the validity of recall. It would appear that psychologists are underestimating both the reliance of the courts on "direct evidence" and the role of the jury as "triers of fact" generally to the advantage of the defendant. The point is made in defence that psychological expert evidence may also reveal when testimony is to be trusted - and hence to assist the prosecution - but as some occasions (according to the evidence presented here) are likely to be few in number, that particular defence is somewhat disingenuous.

There is a danger that psychologists may come to be seen as adopting a

Who owns research?

Science as Intellectual Property: who controls scientific research
by Dorothy Nelkin
Macmillan (New York), \$15.95 and \$7.95
ISBN 0 02 949090 4 and 949090 1

Ten years ago it would have been reputable for British academic to assert that intellectual freedom and the shared pursuit of knowledge placed his research out of reach of (indeed, well above) commercial exploitation, secrecy and patents. Open espousal of such sentiments today would brand the author as an embarrassing reminder of the ivory tower, and of the kind described by a Prime Minister as "toffee-nosed academics."

Of course, much research and scholarship may have no commercial application and the concerns of the market place will be irrelevant. But where definable, tradable and exploitable ideas do exist (that is, intellectual property), today's academic is expected to marry dissemination of knowledge with a prudent eye on the wealth-creating potential. With that may come restrictions on early disclosure and the need to establish a legal ownership of intellectual property rather than just the moral ownership implied by being the first to publish.

Fortunately, many academics have more than just a prudent eye and are themselves the driving force behind transferring ideas and techniques into application. Paid consultancy seems to be increasing and many profound partnerships exist between industry and higher education institutes. Commercial brokerages, offering to help protect an idea and then mate with a potential user, are being created and are offering alternatives to the dominance established by the National Research and Development Corporation (now part of the British Technology Group). A raft of new government and private sector schemes exist to encourage small-company starts and to make venture capital available. In all this, Britain is finally achieving the environment felt in the major universities in the United States perhaps two decades ago.

In the United States, however, many now worry whether the pendulum has swung too far. The concern has been aroused by a sudden boom in the commercial sponsorship of pharmaceutical research. Curb on state funding and private sector excitement over biotechnology (almost comparable with the enthusiasm in Victorian Britain for the railways), have created a climate whereby whole research departments are being "bought up" by commercial interests. The result, say critics, is that the commercial sector, such as Hoechst and Monsanto have negotiated licensing and exploitation rights for the output

from major research groups hitherto supported by federal funds. Familiar questions, never satisfactorily answered before but blunted by repetition, have taken on a new prominence and urgency. Who owns research: the scientist or the paymaster? Can scientists use their ideas in any way they choose? Do the public have any right of access when public money has been involved?

Dorothy Nelkin has an impressive pedigree of taking science and society seriously: she holds a professorship in the subject in Cornell University and is a member of numerous science policy advisory bodies. In her cool and well-informed analysis, she broadens the debate over problems arising from commercial sponsorship into a survey of all the major contradictions that can arise in the tension between disclosure and protection of research findings.

Chapters deal with the implications of the United States Freedom of Information Act and the general question of public access to confidential research material. These are not major concerns for most British research workers on non-classified research, the subject of another chapter, yet a big issue here. However, the material on commercial restriction versus open communication in science, and on public duty (that is, whistleblowing) and the control exercised by the British scene, as academics and their institutions solicit for more contract earnings.

Each topic is illustrated by case-studies and a description of the relevant legislative framework. This background material throws British developments into a new perspective. For example, while the Government is currently attempting to change the relationship between the state-owned British Technology Group and research councils and universities, it is salutary to read of the new American law that allows universities to take the patent rights arising from all federally-funded research and to exploit them with little restriction and with no federal levy on royalties.

Professor Nelkin is content to identify and report on the problems without attempting answers. But this in itself is a very timely contribution. There is considerable debate in Britain at present over how to strengthen the links between academic research, state funding agencies, and commercial sponsors. This book allows us to peep over the horizon a little to see the possible problems associated with success.

P. T. Davies

P. T. Davies advised Her Majesty's Government on the compilation of its green paper "Intellectual Property Rights and Innovation" (December, 1983). He is now secretary to the Royal Greenwich Observatory, Herstmonceux Castle, Hailsham, Sussex.

ignorance of the way in which "the elderly" respond to their obligations in court, and to the context in which testimony is given and received.

It would, however, be wrong to underestimate psychology's contribution to the understanding and reform of the criminal justice system. Psychologists have, in this country, influenced the thinking of Royal Commissions on legal reform, and their findings are increasingly publicized and available to judges, lawyers and laypeople alike - indeed, also to criminals who, if they search diligently, will find good advice on a number of matters, including what parts of the face it is best to disguise. Psychologists will have more influence still in the words of the authors of one chapter, the three "theory" to structure the analysis of the natural environment problems", and in so doing develop a greater understanding of the perspectives of the differing protagonists within the system.

Geoffrey Stephenson

Professor Stephenson is Director of the Social Psychology Research Unit at the University of Kent.

Revised versions of papers presented at an international conference on *Psychology and Law*, edited by D. J. Miller, D. E. Blackman and A. J. Chapman, have been published by Wiley at £29.95. Section four contains three papers on eye witness testimony: on current controversy, on memory of elderly and young adults, and on accuracy and confidence.

National survival

Heart of Europe: a short history of Poland
by Norman Davies
Oxford University Press, £17.50
ISBN 0 19 873060 8

What did Lloyd George and Keynes have in common with Molotov and Hitler? The answer is their poor opinion of Poland. Lloyd George reportedly said that he would no more give Upper Silesia to Poland "than give a clock to a monkey". Less graphic but equally damning are the many western bankers, politicians and commentators who see the Poles as irresponsible trouble-makers who should accommodate themselves to superpower realities. These westerners fail to grasp the global significance of the historic struggle being played out in the "Heart of Europe" whose outcome signals the destiny of the rest of the continent. Such at any rate is the dramatic

picture painted by Norman Davies. Having recently published a well-received two-volume history of Poland, *God's Playground*, Mr Davies has now produced a somewhat shorter version, with less history and more reflections on how the past interweaves with the present. To explore the historical depth of the Polish present he proceeds in reverse chronological order. First we get a tour d'horizon of Poland since the Second World War, then a chapter on the war period followed by one on interwar independence, a lengthy section on the nineteenth century and a brief outline of pre-partition Poland. In the last third of the book Mr Davies examines at greater length than in *God's Playground* the historical traditions and echoes of the past in the dramatic events of recent years. As in that book he does more than full justice to the tragedies which seem to dominate Polish history. Indeed he celebrates the physical and moral struggles involved since one of his central aims is to restore the moral perspective to pride of place in Polish studies and so counter the superficiality of the instant analyses that accompany Polish crises.

This is a laudable aim and Mr Davies does much to deepen our understanding of the present by revealing the historical strata on which it stands. In doing so, however, he tends to be as doctrinaire as some of the instant experts he derides. It is time to champion the romantics and idealists, less helpful and accurate to relegate all pragmatists to the ranks of careerists and collaborators.

The treatment of historical traditions is more balanced. Even so some issues get surprisingly short shrift: for example, there is relatively little on the church or on society. Some generalizations are too sweeping yet Mr Davies's impressive command of a wide range of sources and the sheer momentum of his argument carries one along. The broad-brush technique is less impressive when applied to Eastern Europe and the Soviet Union. Key terms such as Leninism are left undefined and implausible assertions are substantiated (not since Stalin's day the Communist Party chiefs exercised the unlimited despotic powers with which Mr Davies endows them).

Still, it is on its central theme, the drama of Polish history, that the book should be judged and here Mr Davies remains perceptively. Not surprisingly

perhaps, given his immersion in the recurring dramas of Poland's past, the author is somewhat mesmerized by the force of historical fate. While it is difficult to deny that the present "has all the aura of the latent tragedy, *deja vu*", the enormous changes in the domestic and international context since the eighteenth and nineteenth centuries make historical precedents an unsure guide to the future. Yet come what may Mr Davies is sure that Poland's "repository of moral ideas and ancient values" will survive. And indeed it is remarkable how successful Rousseauean advice: "If you cannot prevent your enemies from swallowing you, at least you can prevent them from digesting you."

Norman Davies has written a vigorous and very readable analysis of a struggle for national survival. The strong opinions he expresses may make this at times an irritating book; they also make it an extremely stimulating one.

Alex Prayda

Alex Prayda is lecturer in politics at the University of Reading.



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BOOKS BIOLOGICAL SCIENCES

Darwin's origins

Evolution: the history of an idea by Peter J. Bowler
University of California Press, £25.95 and £8.75
ISBN 0 520 04880 6 and 04890 3

For almost a generation the "Darwin industry" has dominated the history of biology, and the centenary of Darwin's death in 1982 provided the occasion for a display of scholarly wares in a flood of academic publications on aspects of the history of evolutionism. Yet as anyone who teaches this subject knows, it remains extremely difficult to find suitable introductory texts to recommend to students who have insufficient time or enthusiasm to explore the very detailed secondary literature for themselves. What has been needed for some time is a wide-ranging, up-to-date and generally accessible book to serve as both a guide to the field and a stimulus to further inquiry. Peter Bowler's *Evolution: the history of an idea* goes a long way towards supplying this need, and it ought to become a standard item on undergraduate bibliographies.

In his preface, Bowler sets out what he takes to be the three essential characteristics of a survey written explicitly for non-specialists. First, it must be organized to allow a systematic introduction to the issues, taking nothing for granted; second, it must be comprehensive; and third, it must serve as a guide to further reading. About the first and third of these requirements there can surely be no question, but about the second of them I am not so sure. Comprehensiveness is rarely possible in any major field; and most textbook writers sooner or later abandon this ideal in favour of the attempt to convey key ideas and principles by means of selected examples or case studies. Before pursuing this point, however, it is worth asking how well Bowler lives up to his self-imposed standards.

The organization of this book is fairly conventional. Confining itself (if that is an appropriate term) to the period after 1600, which is where the scientific idea of evolution properly belongs, it opens with a preliminary survey of the scope and implications of the idea, together with a consideration of the historical debates involved in its study. The next four chapters deal in turn with early cosmologies,

Beaver away

The Encyclopaedia of Mammals edited by David Macdonald
Volumes one and two
Allen Unwin, £25.00 each volume
ISBN 0 04 500028 X and 500029 8

The world "encyclopaedia" does little to convey the extraordinary beauty of these two volumes, each of which is packed full of astonishing photographs of mammals in action in their native habitats: a killer whale lurking a few feet from a herring shoal; a lioness feeding on a zebra; a herd of wildebeest plunging into a river. Although these are sights that we almost take for granted on our television screens, it is rare for such images to be presented quite so thrillingly in book form.

It is, however, far from being just a picture book, as the two volumes cover all of the living mammals, and describe not only their anatomy and morphology, but also their behaviour, ecology and problems of their conservation. David Macdonald has set himself an ambitious task: to compile an encyclopaedia that is of interest to both professional biologists, and to the lay reader alike. After an introductory chapter, which tells us what mammals are, what they have evolved from, and some salient features of their biology,



Masked Booby, from Lars Löfgren's *Ocean Birds: their breeding, biology and behaviour* (Croom Helm, £16.95).

Enlightenment concepts of evolution, changing views of "man's place in nature", and geology and natural history in the early-nineteenth century. There then follow four chapters on Darwinism, the last being more or less a précis of Bowler's recent book *The Eclipse of Darwinism: anti-Darwinian evolution theories in the decades around 1900* (Johns Hopkins University Press, 1983). Chapter ten is devoted to the social implications of evolutionism, chapter 11 to the so-called "synthetic theory" of the mid-twentieth century, and chapter 12 to "modern" (that is, current) debates. Ironically, the book concludes with a frankly critical (and surprisingly historical) assessment of contemporary "scientific creationism": a movement that espouses ideas not taken seriously by scientists since around 1800.

Under these headings Bowler handles his somewhat daunting task with enviable confidence. The discussion of early cosmologies is aided by useful diagrams, and that of the Enlightenment is unified rather elegantly by a consideration of Michel Foucault's intriguing analysis of the differences between eighteenth-century and nineteenth-century modes of thought. Chapter four begins to show signs of strain, moving somewhat erratically from continental anthropology via British political economy to German romanticism and idealism; but the thread is picked up very firmly in chapter five with early nineteenth-century geology, and thereafter the reader is guided skilfully through

the book then deals with each order in turn. Volume one covers carnivores, sea mammals (whales, dolphins and seals) and primates; volume two covers herbivorous mammals (ungulates, rodents and lagomorphs), insect-eaters (insectivores, edentates, bats), monotremes and marsupials. Each chapter begins with a crisp summary of the order's distribution throughout the world, the animals found within that order, and their anatomical characteristics.

This summary is fleshed out in a short introductory essay, which tells us, in particular, about the ancestry of the present-day animals within the orders. Each of the groups within the order are dealt with in turn. In parallel with this, however, where modern research has thrown up a particularly interesting piece of information on that group, there is a special article devoted to that topic: how large prides of lions do better than small ones, for example, both in hunting large prey and in preventing their kills from being stolen; why zebras have stripes; the function of loud calls in monkeys; and so on. These extra topics will make it possible for readers to step outside the narrow confines of an "animal-by-animal" approach, and begin to appreciate general theoretical problems of mammalian behaviour and ecology. As a result, they will learn, for example, why in some species several members of the family share in bringing up the babies, whereas in others they do not; why some live in monogamous families, whereas others live in polygynous families; and so on.

The fact that this book can begin to provide answers to these questions is a tribute to the energetic research during the past twenty to thirty years of biologists who have gone out into the field to study mammals in their own habitat. A very large number of these biologists have contributed to this book, and they have been persuaded to write in an attractive and readable way about the animals about which they quite clearly care so much. I am sure, for example, that lay readers will be intrigued to know, as I was, why cats can purr but not roar, whereas lions can roar but not purr; and that beavers, who spend their winter in arctic regions in their lodges under the ice in the absence of the normal cues of sunrise and sunset, have "beaver days" that range from 26 to 29 hours in length instead of the normal 24. Many professional biologists who are field workers tend to specialize in one group of mammals: carnivores, say, or primates. This can lead to a narrowness of vision, and a failure to realize that many similar ecological and behavioural problems being tackled in one group are also being investigated in many others.

This book gives us the opportunity to look across the many different groups of mammals and to perceive patterns of behaviour, reproduction, social organization, and so on, to which we might otherwise be oblivious. Above all, it provides a source of excitement; a reminder of the beauty and diversity of the animals that we study.

N. R. Chalmers

N. R. Chalmers is reader in biology at the Open University.

better to concentrate on the synthetic theory itself, leaving human palaeo-anthropology and sociobiology to the last chapter, where they could have taken the place of the largely unnecessary discussion of "exotic alternatives" to evolutionary theory. In this way, it might have been possible to avoid the occasional collapse into such journalistic statements as "Extensive field research has shown that these [sociobiological] predictions are extremely successful in a wide range of animal species". What research; what predictions; what species?

Despite this problem of over-compression, *Evolution* works well as a general guide to the history of evolutionary theory. It is a traditional work in the history of ideas, traditionally written (despite the welcome addition of more diagrams than are customary in books of this kind); and it has many of the virtues of the genre: historical breadth, philosophical depth and close attention to scientific argument and evidence. I should have liked Bowler to take a leaf out of the increasingly sophisticated notebooks of science textbook writers and incorporate into his work some of their techniques of textual organization, exemplification, illustration and summary (too often historians simply take for granted the willingness of their readers to plough through page after page of uninterrupted dense prose in pursuit of understanding; scientists know better). But this is to ask for everything when up until now there has been virtually nothing to replace the increasingly venerable works written at the time of the 1950 Darwin centenary. Few people are acquainted with more of the existing literature on the history of evolutionary theory, or have themselves contributed more to it than Peter Bowler; and even fewer might have been able or willing to give as much of their time and trouble as he has obviously done in producing this authoritative text. It deserves to be widely read.

John Durant

John Durant is staff tutor in biological sciences in the department for external studies at the University of Oxford.

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BOOKS BIOLOGICAL SCIENCES

A natural bond

Biophilia: the human bond with other species
by Edward O. Wilson
Harvard University Press, £26.00
ISBN 0 674 07441 6

Among biologists Edward Wilson is known as a distinguished authority on insects. To a much wider readership he is the author of a blockbuster of a book called *Sociobiology*, which describes brilliantly, and with an avalanche of examples, the principles that govern the behaviour of living things: a sort of quantitative animal sociology. At the end of that book, in 27 pages out of a total of nearly 700, Wilson speculates on the possible implications of this genetic determinism if it were to be applied to human societies. *Sociobiology* stirred a hornet's nest of controversy, some of it technical (a too confident application of genetics to behaviour), and some of it simply gut-protest: that anyone should suggest that a quality like altruism among men and women might be influenced by the mechanisms of evolution. In *Biophilia* Wilson's the spectre of social Darwinism (the critics thought) walking again.

Perhaps one of the reasons why Wilson has written a book of essays and called it *Biophilia* is to confute the gut-protesters. Biophilia is a fancy word (not an elegant one either - it sounds as though it was a label for some obscure disease) to express a naturalist's love of nature and kinship with other living things. He does not renounce his belief that there is an ultimate mechanistic explanation of behaviour in all living things including man; his theme is that this belief is consistent with the sense of wonder and awe which people feel if they become familiar with the behaviour of creatures other than themselves. Indeed, an understanding of the evolutionary history of creatures as far apart as leaf-cutting ants and paradise birds reinforces the sense of wonder and awe. Beauty is not a quality evoked

Plant lipids

Lipids in Plants and Microbes
by J. L. Harwood and N. J. Russell
Allen & Unwin, £19.50 and £7.95
ISBN 0 04 574021 6 and 022 4

Lipids, together with carbohydrates, proteins and nucleic acids represent the four major classes of compounds in living tissues. All biologists would probably claim to know what lipids are, but they might find an exact and acceptable overall definition elusive. This is because lipids do not contain a common structural feature, although they do have a common chemical property: they are soluble in organic solvents while being essentially insoluble in water.

The majority of lipids subsumed by this definition are acyl lipids which contain fatty acids linked to other residues in O-acid or N-acyl linkage to yield either neutral or polar lipids depending on the nature of the non-fatty acid residue. Typical of the neutral group are triglycerides - these are the "fats" beloved of the health magazines - and typical of the polar lipids are the phospholipids, important in membrane structure. Uncombined fatty acids are also lipids, as are compounds in which the acyl linkage is replaced by an ether linkage, as, for example, in plasmalogens.

The solubility criterion also forces us to include the terpenoid compounds, steroids and carotenoids, although they are structurally and biochemically distinct from the acyl and related lipids. However, terpenoids, as diphanyllipids, have recently been found in other lipidic bacteria, the *Archaeobacteria*. Waxes, cutin, lipo-

only by art, music, scenery, or a lovely face; it is to be found, too, in the elegance of mathematics and in the design of experiments in genetics.

Well, none of this is profound or original. Darwin wrote movingly about this empathy with all living things, in *Descent of Man*, published 110 years ago; and philosophers - John Passmore, for instance, in his book *Man's Responsibility for Nature* - have proposed rational arguments to support the protection of endangered species and the preservation of natural habitats. Environmental ethics has become a sub-discipline with a journal of its own. And the "wonders of nature", as they used to be called, are now the common property of every television viewer, through the films made by David Attenborough and other virtuoso naturalists.

What, then, is the value of Wilson's new book? Simply this: it is an opportunity to listen to the conversation of a very civilized man. For the book is really about Edward Wilson more than it is about other creatures. In a relaxed style, with anecdotes about his experience on practically every page, he talks about the thrill of insect-hunting in the deep tropics, with nice dry asides (for example, about tropical micro-organisms "designed to reduce visiting biologists to their constituent acids in quick time"). Woven into these reminiscences are Wilson's opinions and beliefs and anxieties about the future of the biosphere, as man exploits the products of millions of years of evolution and adaptation.

His conversation throws up problems, paradoxes, and puzzles. The comprehension of time in biology is one of them. To apprehend (I use the word because it is more embracing than the word "understand") - to apprehend the living creature, the biologist has to set himself in at least three different scales. The living creature is the product of evolutionary time, beside which the whole history of *Homo sapiens* is no more than an episode. The living creature has to be understood also in ecological time: the time it takes for the creature's habitat to become what Wilson calls "the right place" for it to survive. And it has to be understood in biochemical time: the discharge from a nerve cell measured in milliseconds. None of these three timescales corresponds with the timescale of days and years in which we live our lives. "The modern biological vision sweeps from microseconds to millions of years . . ."

There is paradox, too, in the contrast between the ways a poet and a biologist look at nature: the poet in search of the particular, and the

biologist in search of the general. Wilson writes: "newly discovered truths, and not truth in some abstract sense alone, are the ultimate goal and yardstick of the scientific culture. Scientists do not discover in order to know, they know in order to discover." It is a pity we cannot question Wilson on this tempting aphorism, for surely the whole assumption of sociobiology (and, for that matter, its sole justification) is to get closer to the mega-truth that we hope lies beneath the excavated micro-truths that we call research results.

Towards the end of the book Wilson's conversation turns to the search for an environmental ethic. He would be the first to admit that the search has, so far, failed; but in this quest he has not got as far as some of his contemporaries have. Laurence Tribe, for example, in a brilliant essay in *When Values Count*, published for the American Academy of Arts and Sciences in 1976, puts forward a philosophical framework which I believe could comfortably contain Wilson's beliefs. Wilson's formula for deciding the question - what is my duty to posterity? - is the formula proposed (in a different context) by Passmore ten years ago. Put crudely it is this: I can't get worked up about posterity in general, but I do want my genes to survive in an agreeable environment. It is a stimulating conversation, to read Wilson's book. For his message is a sober one. As we strip the land of forests, pull up hedgerows, drain marshes where birds breed, are we not "burning a Renaissance painting to cook dinner"?

Eric Ashby

Lord Ashby is a fellow of Clare College, Cambridge.

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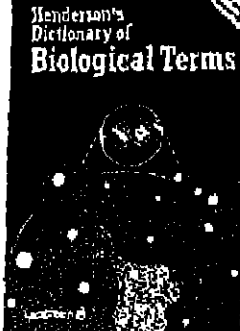
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BOOKS

BIOLOGICAL SCIENCES

A second career

Howard Florey: penicillin and after
by Trevor I. Williams
Oxford University Press, £17.50
ISBN 0 19581734

Following Lord Florey's death in 1968, eleven years were to elapse before the appearance of an authoritative full-length biography. This was the accomplished and enjoyable *Howard Florey: the making of a scientist*, written by a former colleague Gwyn Macfarlane - who earlier this year further corrected the record with his invigoratingly iconoclastic *Alexander Fleming: the man and the myth*. On the publication of a second biography of Florey, the potential reader must ask whether there is anything more to be told. In fact the two biographies dovetail together well. Whereas Macfarlane dealt almost exclusively with events up to the establishment of penicillin as a clinical reality in 1943, Trevor Williams devotes half his book to Florey's subsequent career.

At first sight, the last 25 years of Florey's life can easily be regarded as an anticlimax after the frenzied activity which gave the world its archetypal "wonder drug". Yet four varied achievements were still to come. Florey rediscovered his roots after a quarter of a century abroad, and began work on a project which led to the foundation of the Australian National University at Canberra, and, in particular, the constituent John Curtin School of Medical Research, which he opened in 1958. Meanwhile, under his direction his Oxford department discovered the first of the cephalosporins, which ironically have now largely replaced penicillin and its derivatives in the United States, Japan and elsewhere. Florey then went on via the presidency of the Royal Society to revitalize that venerable institution. Finally, he became one of the first scientists in modern times to be elected head of an Oxford college.

The remarkable Canberra saga is now set down in full for the first time. Drawing on unpublished correspondence and other archival material, as well as conversations with most of the surviving protagonists, Trevor Williams gives a vivid picture of the stormy and prolonged courtship which was conducted over a distance of 12,000 miles. (Indeed, it curiously parallels Florey's own courtship with his first wife Ethel, described so well by Professor Macfarlane in the earlier biography.)

Cats among the pigeons

Predation
by Robert J. Taylor
Chapman & Hall, £17.50 and £8.95
ISBN 0 412 25060 8 and 26120 0

"The foxes again had jackals upon their heels to bite; and the jackals had hyenas, and so *ad infinitum*." A variant on a popular ditty, to remind students and ecologists of the complexities of predation. And this reminder is only a very gentle one; the *ad infinitum* includes lions, leopards and many others, who themselves, too, prey upon foxes and the prey of foxes; and we are also talking of several species of jackal and hyena. A gazelle population may be preyed upon by over a dozen different raptors and mammals, who also prey on at least several dozen other prey species in the same area, as well as being preyed upon themselves.

Against such a background, consider the wisdom of contemplating possible numerical effects of interactions between populations of just two of these species, ignoring the rest? Biological theorists have been doing just that for more than half a century, and

phy.) In 1944, on an arduous wartime visit to Australia, Florey's forthright criticism of the university system evoked a widespread desire for reform. The most able graduates should no longer feel impelled, as Florey had, to work abroad; the best academic facilities be so greatly improved that the best expatriates would be attracted back.

John Curtin, the Prime Minister, was until his untimely death in 1945 a strong supporter of the proposal to establish a National Medical Research Institute in Canberra, with Florey as head. The official memorandum which Florey prepared in 1945 was not only a detailed plan for the future John Curtin School but also an exposition of his views on medical research. In the following year he helped to formulate the Australian National University Act of Parliament, but negotiations, which were often acrimonious, continued for a further ten years over the building of the school and his proposed directorship of it. Florey was hard to please and vacillated repeatedly before declining the appointment in 1957. The story, however, ended happily when he opened the school and received an honorary degree in 1958, later accepting the chancellorship of the young university for the final three years of his life.

In the midst of the byzantine exchanges between Oxford and Canberra, Florey's own school of pathology from 1948 to 1956 achieved its second great antibiotic success - the isolation and characterization of "cephalosporin C" derived from an obscure Sardinian mould, *Cephalosporium acremonium* - which opened up what is still the most fertile field of semi-synthetic antibiotic innovation throughout the world. Unfortunately, the chapter dealing with this work is disappointing. The all-important researches of Sir Edward Abraham and Guy Newton are briefly described, but Florey's own contributions with animal studies and his general support receive only passing mention. There are also some misleading statements - for example, that the earlier antibiotics erythromycin and "terramycin" (oxytetracycline) were of little value, when in fact they remain very useful against a number of infections resistant to penicillins and cephalosporins.

Florey's notable presidency of the Royal Society from 1960 to 1965 is well reviewed. The society's interests and membership were broadened, particularly in the applied sciences; and preparations were made for it to move to splendid new premises at Carlton House Terrace. During his third year in office, Florey accepted the pro-vice-chancellorship of the Queen's College, Oxford. This was surprising both on Florey's and the college's part. He gave the typically banal explanation of wanting to be employed beyond the usual period for professors, while the college was able to resolve a difficult impasse among internal candidates.

Head of an Oxford college, Nobel laureate, life peer and Member of the Order of Merit, Howard Florey had attained an eminence that was in striking contrast to the position of his father, who, as a bootmaker, had emigrated to Australia from the near-by Oxfordshire countryside. At first Florey found the characteristic argumentative college fellows (mostly non-scientists) difficult to manage. Although his abrasive Australian manner had mellowed, these early problems were not helped by such remarks as "not one of you sitting round this table could run a fish-and-chip shop."

Though an agnostic, Florey received consolation from an unlikely source - the equally forthright college chaplain, David Jenkins, who has recently been better known as the new Bishop of Durham. Happily, within six months, Florey settled in well, and by the time of his death six years later he had raised funds for major improvements in college accommodation and for the very imaginative Florey-European studentships.

Most of the 20 illustrations are additions to the published Floreyana, especially the pictures of the Australian fifty-dollar note (below) and the plaque - next to Charles Darwin's - unveiled in Westminster Abbey as recently as November 1982. Trevor Williams has ably completed the life story of a man whom Macfarlane described as "the most effective medical scientist since Lister".

Sydney Selwyn

Sydney Selwyn is professor of medical microbiology at Charing Cross and Westminster Medical School, London.



In *Predation* Robert Taylor presents an illuminating account of these efforts. He discusses the intricacies, mechanisms and consequences of predation by one species on another. In a final chapter, however, he faces the facts of life by looking at the consequences of adding a third species to the system, and finds "With some uncertainty and remaining about how three-species systems will operate, one truth emerges; their dynamics are bound to be enormously complicated by comparison with two-species systems, the dynamics of which are complicated enough."

To do Taylor justice, he seems throughout to be perfectly aware of the gap between theory and life in the raw, and all in all he has written a very readable account of the mathematical theory of predation. Somehow, he presents it as a fascinating game, not to be confused with reality; and his final sentence reads: "At this point it looks as if students of whole communities will need to be satisfied with a descriptive approach to static evolutionary patterns."

In a dozen chapters, Taylor gently leads us to the numerical complexities of predator-prey interactions. The book is strongest where it discusses laboratory experiments, summarizing many classics in this field, with sections on self-limitation of prey and predator populations, on population age structures, on the effect of habitat complications on predator-prey interaction (prey refugia) and spatial structure of prey populations, and on

predation and population cycles in the arctic. I particularly liked the discussion of the "functional response", the way in which individual predators respond to changes in prey numbers - and for instance, by eating more - and the effects of this on prey population. Taylor describes in an easy, discursive style the different possibilities and their consequences. His arguments throughout are clear. The graphic illustrations are many and excellent, but the plates are few and rather irrelevant.

Hans Kruuk

Hans Kruuk is a member of the senior scientific staff at the Institute of Terrestrial Ecology, Hill of Brathens, Banbury, Oxfordshire.

A revised edition of Barry Halliwell's *Chloroplast Metabolism: the structure and function of chloroplasts in green leaf cells* has been published by Oxford University Press at £9.95.

BOOKS

BIOLOGICAL SCIENCES

Dual organisms

The Lichen-Forming Fungi
by D. L. Hawksworth and D. J. Hill
Blackie, £16.95 and £7.95
ISBN 0 412 00631 6 and 00641 3

Associations between fungi (which cannot photosynthesize) and algae or photosynthetic bacteria are generally considered to be outstanding examples of mutualistic symbiosis. Lichens, that is the dual organisms so formed, are numerous and ubiquitous; over large areas of the Earth, they constitute a major component of plant communities. In addition, many "species" have been successfully used in physiological and biochemical investigations on fungi-plant and fungus-bacterium relationships. Although intense specialist curiosity is evidenced by a rapidly-expanding literature on all aspects of their biology, as the authors of this

Seed banks

Our Green and Living World
by E. S. Ayensu, V. H. Heywood, G. L. Lucas and R. A. Deffilips
Cambridge University Press, £12.95
ISBN 0 521 26842 7

This is not a book which conceives of conservation in terms of leaving the world, or even selected parts of it, to its own devices; on the contrary, it recognizes the need for man, who is responsible for most of the current high levels of pressure upon vegetation, to rectify his errors and to devise a means whereby the plant kingdom can act as a support system for him without suffering irreparably in the process.

The four authors are botanists of international repute: two British, one American and one African. Their wide experience of plant life in many parts of the world, and in particular of the ways in which men and plants interact in a variety of cultural settings, provides a wealth of interesting and fresh examples of our deep and ancient relationships with plants.

Blood relatives

Orders and Families of Recent Mammals of the World
edited by Sydney Anderson and J. K. Jones, Jr
Wiley, £54.40
ISBN 0 471 08493 X

The natural world is not characterized by order and simplicity, on the contrary, the layman's imagination is stretched to disbelief when told that, for example, the closest living relative of the huge lumbering elephants are the tiny, swift-footed rock conies. Systematic zoology is the science which examines the interrelationships of the various hierarchical levels of complexity, and renders chaos into order. Most treatises on mammalian systematics make for rather dull reading, for the excitement of real-life biology is edged off the page by dry, even stuffy prose. Some 30 years ago, Sydney Anderson and J. K. Jones, Jr induced a group of biologists to construct an outline of the history of each order (for example, rodents, primates) and family (for example, mice, voles, lemmings) of living mammals. Various updates of this original analysis have occurred over the years, culminating in the present

work. Where this book differs from most others on mammalian systematics is that it is more of an encyclopaedia than a dictionary. Orders and families fol-

low one another in the normally accepted pattern, each section presenting clearly the information a professional zoologist might require (for example, the names of those who described genera, and the dates of their publications). Important fossil forms from the Recent geological period (back to the end of the Pleistocene epoch, about 12,000 years ago) are listed, together with notes on sites of occurrence.

What brings this book to life however, is the substantial section under each family heading (there are 131 of these) dealing with habits of representative members. Here readers can find information on habitat, food, breeding season, litter size, behaviour, relationship with man, and much else besides. A distribution map accompanies each family, although larger scale maps for very restricted families would have been more helpful.

Armchair naturalists wishing some mortar to bind their natural history epic will find much to absorb them. Many text figures, most adapted from well-known sources, help illustrate the skeletal and other characters upon which much of the systematic classification is built. The professional zoologist will be particularly pleased with the comprehensive and fairly up-to-date bibliography which lists some 1,500 original sources. All-in-all some 1,500 original sources. All-in-all some 1,500 original sources. All-in-all some 1,500 original sources.

Flowers and foliage are not only a means for the production of food in man's eye, but have also become richly symbolic in their meanings. The opening chapters, illustrated with superb colour photographs, depict the contribution of the plant world to art and design. From the enamel work of ancient Persia to the tapestries of William Morris, the beauty of form found in plants has been an inspiration to artists through the centuries and across the globe. Even engineers have looked to plants for new ideas in construction: Sir Joseph Paxton based his revolutionary design for the Crystal Palace upon the anatomical structure of the leaves of the giant water lily, *Victoria amazonica*.

The second part of the book examines some of the Earth's great habitats, from deserts to wetlands, and considers in particular the variety of plant life found within them and the stresses to which they are currently subjected. Then, in the third part, we are led into a discussion of those very processes of human exploitation which have placed many of the world's natural habitats under stress. But we are spared any hysterical pleas for exploitation to cease. On the contrary, the emphasis is upon man's making the most efficient use possible of the limited productive resources of the

world, which includes the maintenance of the genetic variability of both those species of plant which we currently use for food, fuel and pharmacy, and those many others whose value is yet to be discovered. Thus the authors develop the essentially rational and convincing argument for the conservation and careful use of the world's flora.

The book closes with an epilogue by the late Mrs Indira Gandhi, who points with justifiable pride to the conservation policy of her government, which has sought to save the forest remnants of the Himalayan foothills and to re-afforest regions laid bare by the quest for firewood and timber. This section reminds us that the final outcome of all arguments presented here is dependent on the sensitivity and wisdom of politicians. It is not easy to demonstrate convincingly the need to look after our green and living world, but this splendidly produced book succeeds in doing so.

Peter Moore
P. D. Moore is reader in ecology in the department of plant sciences at King's College, London.

Roderic Cooke

R. C. Cooke is reader in mycology at the University of Sheffield.

Lipids in Plants and Microbes
J. L. Harwood and N. J. Russell
A concise but wide-ranging comparative review of the structure, metabolism and functions of lipids in plants and microbes. Their differences from animal lipids are clearly brought out and with the increasing importance of microbes and plant cell cultures in the food industry, biotechnology and medicine, the book is timely. October 1984 Hardback £19.50 Paperback £7.95

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The proceedings of the 8th International Chromosome Conference, held in Lubbeck, West Germany in September 1983. These conferences are the premier forum for the presentation of research and review papers in both plant and animal (including human) chromosome-related research. This volume therefore offers the hard-pressed biologist ready access to these fast-moving fields. November 1984 Hardback £30.00

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This book presents detailed protocols for over 100 class experiments in plant physiology. Some 40 university teachers have contributed their best tried and trusted class experiments, each of which has again been minutely tested by Professor Meidner who has then rewritten and edited them into a uniform style. The result is a source book of unrivalled authority and reliability. July 1984 Hardback £20.00 Paperback £9.95

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The Biosynthesis and Metabolism of Plant Hormones

Edited by A. CROZIER and J. R. HILLMAN

This volume critically assesses the latest developments associated with the biosynthesis and metabolism of plant growth substances, and includes an interesting contribution on the metabolic fate of the synthetic growth regulators used in agriculture. The contributors are all internationally eminent scientists in this field. £17.50 net

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The Queen's University of Belfast

BURSAR

The Queen's University of Belfast invites applications for the post of Bursar which will become vacant on 30th September 1985 upon the retirement of the present holder. The Bursar is responsible for the financial business of the University and associated administrative services. Applicants should preferably possess an appropriate University degree or professional qualification and have extensive experience in financial administration at senior level. Salary will be within the professorial range with contributory pension rights under USS/USDPs. Further particulars of the post may be obtained from the Personnel Officer, The Queen's University of Belfast, University Road, Belfast BT7 1NN (Telephone 0232) 245133 ext. 3038).

Applications, accompanied by a full curriculum vitae, with the names and addresses of three referees should be submitted to the Honorary Treasurer c/o the Vice-Chancellor's Office at the above address by 31st December 1984.

ROYAL HOLLOWAY AND BEDFORD COLLEGES
(University of London)

Principal

The two Colleges, with their common traditions and complementary academic interests, are merging to form a new College of the University. The Principal will be the senior academic and administrative officer of the College.

Applications are now invited from candidates who can offer the distinction and the experience with which to lead the staff and students of the new College in its formative years.

Particulars of the post can be obtained from:

V. H. Warren
Founder's Building
Royal Holloway College
Egham Hill
Surrey TW20 0EX

UNIVERSITY OF ABERDEEN

CHAIR OF COMPUTING SCIENCE

Applications are invited for this newly established Chair in the Department of Computing Science. The new Professor will head an expanding department and in addition to a distinguished record of research and scholarship the appointee must have the capacity and motivation for leadership in the Department, the Faculty of Science and the University as a whole.

Further Particulars and Application Forms from:
The Secretary, University of Aberdeen, Regent Walk, Aberdeen AB9 1TX, with whom applications (2 copies) should be lodged by 21 December 1984.

UNIVERSITY OF EAST ANGLIA
Norwich

SAINSBURY CENTRE FOR VISUAL ARTS

KEEPER

Salary within the range £18,070 - £19,835 plus USS benefits.

Applications are invited for the post of Keeper in the Sainsbury Centre for Visual Arts from 1 April 1985 or as soon as possible thereafter. The appointment will be tenable in the first instance for a period of five years. The Keeper is responsible for the care, conservation and varying display of the Robert and Lisa Sainsbury Collection and other collections housed in the Sainsbury Centre and will be expected to facilitate the use of these collections for teaching and study in the University and to develop their use in relation to the public. Other duties include organising special exhibitions.

Candidates should have appropriate academic qualifications and administrative ability. Previous museum training as well as experience in the display and care of works of art is desirable.

Further particulars may be obtained from the Establishment Officer, University of East Anglia, Norwich NR4 7TJ, with whom applications (4 copies) giving exact date of birth, qualifications and experience, together with the names and addresses of three persons to whom reference may be made, should be lodged not later than 10 January 1985.

UNIVERSITY OF DUBLIN
Trinity College

CHAIR OF LASER PHYSICS

Applications are invited for this senior professorial appointment within the Department of Pure and Applied Physics. The duties associated with the post will include leadership of the Department's laser physics group, founded by Professor D. J. Bradley FRS. The group is engaged in advanced research projects in nonlinear optics, semi-conductor devices, and interdisciplinary studies. In well-equipped laboratories, it has attracted substantial research grants and contracts.

Candidates should have an established record of research in laser physics or nonlinear optics, together with ability to direct a substantial research effort and to contribute to the teaching of the Department. Further particulars may be obtained from:

G. H. H. O'Leary
Secretary to the College
Trinity College
Dublin 2, Ireland.
Telephone: 772941, exts. 1722, 1123

to whom formal application should be made, preferably not later than 15th February, 1985.

UNIVERSITY OF OXFORD
In association with St. Edmund Hall

UNIVERSITY LECTURESHIP IN PHYSICAL GEOGRAPHY

Applications are invited for the above post, tenable from 1st October, 1985. Stipend according to age on the scale £7,520 - £15,930. It is intended that the Lectureship will be held in association with a Tutorial Fellowship at St. Edmund Hall.

Further details may be obtained from: The Secretary of the Board of the Faculty of Anthropology and Geography, (Miss Jennifer Noon), c/o The Oriental Institute, Pusey Lane, Oxford OX1 2LE, to whom 10 copies of formal applications (naming three referees) should be sent not later than 15th January, 1985.

THE UNIVERSITY OF MANCHESTER

IKBS CHAIR

Applications are invited for a CHAIR in Intelligent Knowledge Based Systems in the Department of Computer Science. Candidates are expected to have a distinguished record of research or industrial achievement in the IKBS fields broadly interpreted.

The University has established this new Chair in addition to the five existing Chairs in the Department to support further the U.K. initiative in Information Technology.

The person appointed will take a leading role in teaching and research in the Department and will collaborate with other departments in the University which also have interests directly related to IKBS.

Applications (suitable for photocopying) giving full details of qualifications and experience and the names and addresses of three referees to the Registrar, The University, Manchester M13 9PL, U.K. (closing date February 15th, 1985) from whom further particulars may be obtained. Quote ref. 228/84/THES.

SCHOOL OF AGRICULTURE, ABERDEEN
University of Aberdeen in association with
The North of Scotland College of Agriculture

PROFESSOR OF AGRICULTURAL ECONOMICS

Applications are invited for the above Chair.

The post carries responsibilities for the Agricultural Economics Group of the School, and provides unique opportunities for work of immediate application to the farming industry through the extension service, as well as on prices, marketing and agricultural policies in the wider sphere.

Further particulars and application forms from The Secretary, The University, Aberdeen, with whom applications (2 copies) should be lodged by Friday 11 January 1985.

The University of the West Indies
St. Augustine, Trinidad

Applications are invited for the following vacancies:

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In the Teaching of Mathematics and Measurement in Tests and Measurement in the pre-service and in-service training of teachers especially at primary level. Posts funded from January, 1985 to July, 1987.

LECTURER/ASSISTANT LECTURER

with good Physics background and research interest in Materials Science.

Salary scales per annum (lecturers): £7,520 - £15,930 (assistants): £5,120 - £10,240. Further details and application forms from: The Secretary, University of the West Indies, St. Augustine, Trinidad, West Indies, to whom applications should be sent not later than 15th January, 1985.

University of Hong Kong

READERSHIP/SENIOR LECTURESHIP/PERIODONTOLOGY AND PUBLIC HEALTH

Applications are invited for a Readership/Senior Lectureship in the Department of Periodontology and Public Health (Head of Department: Professor W. I. R. Davies).

Applicants should have suitable postgraduate qualifications and must have clinical interests in Periodontology.

Annual salaries (superannuable): Reader (fixed) HK\$415,000 (approx.); Senior Lecturer (fixed) HK\$349,000 (approx.); Lecturer (fixed) HK\$283,000 (approx.); Assistant Lecturer (fixed) HK\$217,000 (approx.).

At current rates, salaries will not exceed 17% of gross income. Housing allowance at a rate of 14% of gross income. Pension scheme, children's education allowance, leave and medical benefits are provided.

Further particulars and application forms may be obtained from: The Secretary, University of Hong Kong, General Administration Office, 36 Gordon Road, Hong Kong, to whom applications should be sent not later than 18 February 1985.

Universities continued

AUSTRALIA

LECTURER IN SOCIOLOGY
2 Positions - (Tenurable)
2 Positions - (Tenurable)

School of Social Sciences

The Department of Sociology invites applications for two tenurable lectureships. The Department is seeking applicants to design and teach a year long unit in Sociology. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Applications are invited from persons with research interests in any branch of sociology, including economic sociology, to make a contribution to the core courses in sociology and to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars may be obtained from: D.A.S. Copland, The University of Queensland, St. John's Road, St. John's, Queensland 4072, Australia. Applications (7 copies from U.K. applicants) should be sent not later than 4 January, 1985, quoting reference 2100/THES.

The University of Tasmania

LECTURER IN ENGLISH LITERATURE

Department of English

The tenurable post is available from May 1985. Candidates should have appropriate qualifications and teaching experience. Experience in American literature is preferred. Salary is \$18,000 - \$22,000 per annum. Further details and application forms from: The Secretary, Department of English, University of Tasmania, Hobart, Tasmania 7000, Australia.

THE AUSTRALIAN NATIONAL UNIVERSITY

SENIOR LECTURER AND LECTURER IN ITALIAN

Department of Modern European Languages

The Department is seeking suitably qualified persons for the posts of Senior Lecturer and Lecturer in Italian in the Department of Modern European Languages. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Modern European Languages, Australian National University, Canberra, Australia.

La Trobe University
Melbourne

LECTURERS/SENIOR LECTURERS - ACCOUNTING/ FINANCE
(Tenurable)

The Department of Economics wishes to make a number of appointments to research and teaching positions in the areas of Accounting and Finance. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Economics, La Trobe University, Melbourne, Australia.

University of Sheffield

HUMAN FACTORS IN INFORMATION TECHNOLOGY

Applications are invited to the new program of research in Human Factors in Information Technology. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Human Factors, University of Sheffield, Sheffield, England.

Somerville College
Oxford

RHODES VISITING FELLOWSHIP FOR WOMEN

The Rhodes Trustees and Somerville College invite applications for the Rhodes Visiting Fellowship for Women. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Somerville College, Oxford, England.

Southampton THE UNIVERSITY

DEPARTMENT OF ECONOMICS

Applications are invited for the post of Lecturer in the Department of Economics from September, 1985. Candidates should be qualified to graduate level in an appropriate subject but may have teaching and research interests in any field of Economics.

The appointment will be made on salary scale £7,520-£15,930 per annum. The initial salary will depend on qualifications and experience.

Further particulars may be obtained from: D.A.S. Copland, The University of Queensland, St. John's Road, St. John's, Queensland 4072, Australia. Applications (7 copies from U.K. applicants) should be sent not later than 4 January, 1985, quoting reference 2100/THES.

University of Swaziland

LECTURER IN LAW (TWO POSITIONS)

Applications are invited from suitably qualified persons for two Lectureship positions in Law.

QUALIFICATIONS: POSITION 1:

Candidates should have a minimum of a Master's degree in Law with previous university experience in the teaching of Public International Law, Constitutional Law, and the Law of Succession.

POSITION 2:

Candidates should have a minimum of a Master's degree in Law with previous university experience in the teaching of Public International Law, Constitutional Law, and the Law of Succession.

DUTIES:

The successful candidates will be expected to teach and supervise students pursuing studies leading to the LL.B. (Law) and LL.S. degrees.

BASIC SALARY SCALE:

£8,388 - £15,930 (yearly) £15,930 - £21,404 (entry on the scale dependent on qualifications and relevant previous experience).

TERMS OF SERVICE:

Local Candidates: Permanent and pensionable terms of service after successful completion of a two year probationary period.

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APPLICATIONS:

Detailed applications (3 copies) including a curriculum vitae, copies of academic certificates, the names of three referees and a recent passport photograph should be forwarded to: The Secretary, University of Swaziland, P.O. Box 104, Mbabane, Swaziland. Candidates in the field should send a copy of their curriculum vitae to the Secretary General, Association of Universities (Appel), 36 Gordon Square, London WC1H 0DF, from whom further particulars are available.

St. Hugh's College
Oxford

GRADUATE SCHOLARSHIPS

The College is offering five scholarships for women graduates for October, 1985. Each of £1,500 per annum for a period of three years, with the fee-paying duration of up to three years.

Three may be held only by graduates who are British citizens working for a higher education in a wide range of subjects.

One may be held by a graduate of any nationality working for a higher education in any subject or only in the case of a graduate of a foreign nationality for a higher education in a subject of the Graduate's own choice.

The Department of Classics and Ancient History is offering a Graduate Scholarship for a graduate of any nationality working for a higher education in a subject of the Graduate's own choice.

Each graduate scholar will be offered a room at the standard charge in one of the College's halls of residence, and will be entitled to dine in the College's hall. Some small supplementary stipends may be available for scholars who have inadequate financial support.

Awards to applicants not already residing for a higher degree at Oxford will be conditional on their being accepted to do so by the relevant Faculty Board of the University. Separate applications should be made as soon as possible to the University's Graduate Admissions Office.

Further particulars of the Scholarships from the Tutor, St. Hugh's College, Oxford OX2 0EL, or to the Secretary, St. Hugh's College, Oxford OX2 0EL, by Friday 1 March 1985.

St. John's College and Pembroke College
Oxford

FELLOWSHIP AT ST. JOHN'S COLLEGE AND LECTURESHIP AT PEMBROKE COLLEGE

Applications are invited for a Fellowship at St. John's College and a Lectureship at Pembroke College. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, St. John's College, Oxford, England.

The University of New South Wales
Sydney, Australia

LECTURERS (2 POSITIONS)
(Ref. 1085)

The School of Textile Technology offers two tenurable lectureships in textile engineering, textile manufacturing and textile design. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars may be obtained from: The Secretary, School of Textile Technology, University of New South Wales, Sydney, Australia.

University of Glasgow
Department of Management Studies

LECTURESHIP IN MANAGEMENT STUDIES

Applications are invited for a tenurable Lectureship in Management Studies. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Management Studies, University of Glasgow, Glasgow, Scotland.

Heriot-Watt University
Edinburgh

CHAIR IN BUILDING

Applications are invited for an additional Chair in the Department of Building Services Engineering. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Heriot-Watt University, Edinburgh, Scotland.

University of Stirling
Department of Accountancy and Business Law

LECTURER IN ACCOUNTANCY

Applications are invited for a post of Lecturer in the Department of Accountancy and Business Law. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Accountancy and Business Law, University of Stirling, Stirling, Scotland.

University of Glasgow
Department of Management Studies

RESEARCH ASSISTANT

A research assistant is required to work on a project funded by the Economic and Social Research Council to examine the impact of new computing and information technologies on the management of business. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Management Studies, University of Glasgow, Glasgow, Scotland.

University of Surrey
Department of Linguistics & International Studies

LECTURER IN LAW

Applications are invited for a Lectureship in Law tenable in the Department of Linguistics & International Studies from 1 September 1985. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Linguistics & International Studies, University of Surrey, Surrey, England.

The Queen's University of Belfast

LECTURESHIP IN PHILOSOPHY

Applications are invited for a Lectureship in Philosophy in the Department of Philosophy. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Philosophy, The Queen's University of Belfast, Belfast, Northern Ireland.

University of Stirling
Department of Accountancy and Business Law

LECTURER IN ACCOUNTANCY

Applications are invited for a post of Lecturer in the Department of Accountancy and Business Law. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Accountancy and Business Law, University of Stirling, Stirling, Scotland.

University of Glasgow
Department of Management Studies

RESEARCH ASSISTANT

A research assistant is required to work on a project funded by the Economic and Social Research Council to examine the impact of new computing and information technologies on the management of business. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Management Studies, University of Glasgow, Glasgow, Scotland.

University of Surrey
Department of Linguistics & International Studies

LECTURER IN LAW

Applications are invited for a Lectureship in Law tenable in the Department of Linguistics & International Studies from 1 September 1985. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Linguistics & International Studies, University of Surrey, Surrey, England.

University of Glasgow

PART-TIME TEMPORARY LECTURESHIP IN PHILOSOPHY

Applications are invited for a part-time temporary Lectureship in Philosophy. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Philosophy, University of Glasgow, Glasgow, Scotland.

University of Stirling
Department of Accountancy and Business Law

LECTURER IN ACCOUNTANCY

Applications are invited for a post of Lecturer in the Department of Accountancy and Business Law. The successful candidates will be expected to contribute to the research and teaching experience of the Department. Equal opportunity of employment is University policy.

Further particulars and application forms from: The Secretary, Department of Accountancy and Business Law, University of Stirling, Stirling, Scotland.

INDUSTRY AND COMMERCE

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Sony's name needs little introduction. Our reputation is built around well designed, high quality and high performance electronics products for both the consumer and commercial markets. Never a company to rest on its laurels, we are constantly growing and developing into new areas, one of the most exciting of which is Interactive Video Disc.

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It goes without saying that the hardware alone is of little use to anyone and we are therefore looking for a **Training Technologist** or **Programme Designer**, firstly to develop some demonstration materials to enable us to show to customers what the systems are capable of doing and, secondly, to talk to customers and potential customers about the development of training-programmes tailored to their needs.

A Training Technologist or Programme Designer, with several years' experience of programmed learning design, you will probably be currently working in Interactive Video or CBT and be able to demonstrate a good understanding of interactive program design, use of computer graphics and methods of interaction (man-machine interfaces). Creativity, flexibility, the ability to work as a member of a team and a keen commercial awareness are all essential and, as customer contact is involved, it will obviously also be necessary to be both presentable and articulate. A working-knowledge of BASIC would be an advantage.

In return, we offer an excellent salary, company car, lunch allowance, 23 days' holiday and a range of other benefits which are everything you would expect from a prestige company like Sony.

To apply, please write with full details of your qualifications and experience to date, to Pat Casey, Sony (UK) Limited, Sony House, South Street, Staines, Middlesex TW18 4PF, or telephone her for an application form on Staines 61888.

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Librarians continued

Queen Alexandra Road, High Wycombe,
Buckinghamshire HP11 2JZ
Director: D.J. Everett BA FFCam

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Applications are invited for the following post, which becomes vacant on 1st September, 1985:

TUTOR LIBRARIAN

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Salary scale: Senior Lecturer £1175-13128 (£14081) + Outer London fringe allowance.

Removal and lodging allowances available in appropriate circumstances.

Application form and further details from the Assistant Director, to whom applications should be returned within 2 weeks of this announcement. Please enclose S.S.E.

(17220)

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Current vacancies are for specialists in:

SECONDARY EDUCATION

Home Economics Ref. 8/85

Candidates should have good specialist qualifications and substantial experience of teaching the subject in schools, colleges or universities and a wide knowledge of the subject in its application to the education and training of teachers. Applications will be particularly welcomed from those who have experience of co-ordinating health education programmes in primary or secondary schools.

Mathematics Ref. 9/85

Candidates should have good academic qualifications in mathematics, substantial experience of teaching the subject in schools, colleges or universities and a wide knowledge of the subject in its application to the education and training of teachers. Applications will be particularly welcomed from those who have experience of co-ordinating health education programmes in primary or secondary schools.

Science Ref. 10/85

Candidates should have a degree, or an equivalent qualification, in one or more of the main sciences. Experience of teaching science to pupils of different abilities in a secondary school is essential, and it is desirable for applicants to be interested in primary science or technology or the education and training of teachers. Applications will be particularly welcomed from those who have experience of co-ordinating health education programmes in primary or secondary schools.

PRIMARY EDUCATION Ref. 11/85

Candidates should have substantial and appropriate teaching experience and knowledge of current thinking and practice relating to the curriculum and organisation within the 3 to 13 age range. Those who have knowledge and experience of developments in education in the early years will be particularly welcome.

YOUTH AND COMMUNITY Ref. 12/85

Candidates should have relevant professional or academic training and substantial experience of youth and community work. Experience in both voluntary and statutory sectors or in youth work training would be an advantage. Candidates should also have experience of working with young people in schools or in the community in areas of educational ethnic minority settlement. A broad interest in either secondary or further and higher education is required.

Starting salary for all posts is within the range £16,200-£21,800. Relocation expenses of up to £5000 may be payable.

Application forms (to be returned as soon as possible and not later than 14 December 1984) and further information may be obtained from Mr. E. D. Foster, Department of Education and Science, 29, York Road, London, SE1 7PH. Telephone: 01-928 9222, extens. 2488, 2487 or 2487.

The Civil Service is an equal opportunity employer.

(17167)

Overseas



ENGLISH AS A SECOND LANGUAGE:

The Department of English at the American University of Beirut (AUB) invites applications for faculty positions (Instructor level) in its English Communication Skills Program, available October 1, 1985. Appointments of candidates who hold the M.A. degree in English or equivalent, and who have experience in the teaching of English to foreign students, are normally for a three-year contract period. Interested persons should send their letters of inquiry and curriculum vitae to:

Chairman, Department of English, American University of Beirut, Beirut, Lebanon.

AUB is an equal opportunity affirmative action employer.

(17007)

This post is suitable for job share appointments. For a job share appointment will only be considered if submitted on a paired basis. A Register is maintained by the Department of English at the American University of Beirut, Room 2055, The County Hall, London SE1 7PH.

Salary Scale: £7,548 - £12,095 plus £287 Inner London Allowance (subject to formal ratification).

Further details and application form are obtainable from the Department of English, American University of Beirut, Beirut, Lebanon.

Application forms should be returned to the Department of English, American University of Beirut, Beirut, Lebanon, by 14 December 1984.

AUB is an equal opportunity affirmative action employer.

For details of the following positions, please apply to the American University of Beirut, Beirut, Lebanon.

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Colleges of Further Education continued

London College of Furniture
41/71 Commercial Road,
London E11 1LA
Inner London
Education Authority
Department of Communication
& Foundation Studies

LECTURER GRADE II COMPLEMENTARY STUDIES

Needed as soon as possible, a graduate with teaching experience in Art/Design History or Cultural Studies to teach students on BTEC and HNC courses (both non-advanced and advanced) in furniture, interior design and technology.

Salary: On an incremental scale within the range of £7,548 - £12,095 (plus £287 Inner London Allowance).

Further details and application forms are available from the Clerk to the Governors at the College.

All posts which are graded Lecturer I to Principal Lecturer are considered suitable for job share. Applications for job share appointments will only be considered if submitted on a paired basis. A Register is maintained by the Department of English at the American University of Beirut, Room 2055, The County Hall, London SE1 7PH.

ILEA is an Equal Opportunity Employer. (53411) B7

Avery Hill College
Bexley Road,
Eltham, SE9 2PQ
Tel: 850 0081
Inner London
Education Authority
Craft Design and Technology
School Technology

LECTURER II

Required for Easter 1985 a person to join this expanding department.

Applicants, who should be graduates, will be required to contribute to the teaching of Technology and Engineering on the various initial and further teacher education courses the College offers. Relevant and recent school-based experience in this field is important.

This post is suitable for job share appointments. For a job share appointment will only be considered if submitted on a paired basis. A Register is maintained by the Department of English at the American University of Beirut, Room 2055, The County Hall, London SE1 7PH.

Salary Scale: £7,548 - £12,095 plus £287 Inner London Allowance (subject to formal ratification).

Further details and application form are obtainable from the Department of English, American University of Beirut, Beirut, Lebanon.

Application forms should be returned to the Department of English, American University of Beirut, Beirut, Lebanon, by 14 December 1984.

AUB is an Equal Opportunity affirmative action employer.

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General Vacancies continued

Department of Education and Science HM INSPECTORS OF SCHOOLS

Applications are invited from men and women, preferably aged between 35 and 45, for appointments in England as HM Inspectors. HMI inspect educational institutions as part of both general and specialist assignments and provide advice to the Department and throughout the education system.

Current vacancies are for specialists in:

FURTHER AND HIGHER EDUCATION

Adult and Continuing Education: Ref. 1/85

Candidates should have substantial qualifications and teaching experience in one or more of the following fields of adult education: responsible body adult education; LEA general and community adult education; vocational/professional and general adult training and retraining. Experience of distance learning, part-time and short course techniques and related methods will be an advantage.

Agriculture and Horticulture: ref. 2/85

Candidates must have considerable experience and responsibility in this specialist area and have an active interest in its applications. Appropriate academic qualifications, teaching and industrial/professional experience are essential.

Art and Design: Ref. 3/85

Candidates should have good specialist qualifications and experience of teaching fine art, photography, or film and television studies, or design, or graphics, in further and higher education. Experience is sought in the teaching of these subjects in single or combined subject degrees, DATEC, and in the application of these subjects to the education of teachers and other professions.

Catering and Food: Ref. 4/85

Candidates must have considerable experience and responsibility in this specialist area and have an active interest in its applications. Appropriate academic qualifications, teaching and industrial/professional experience are essential.

Computing Education: Ref. 5/85

Candidates should have substantial teaching experience in this field. They should hold a senior position in further and higher education and have a broad and active interest in computer education. Particular interest and experience in an area of computer application, e.g. information technology, or in the field of mathematical sciences, would be an advantage.

Engineering: Ref. 6/85

Candidates should have substantial experience of teaching either electrical, electronic or mechanical engineering in Higher Diplomas and at degree level. They should also have relevant experience in industry.

Geology: Ref. 7/85

Candidates should be qualified in geology and preferably have post graduate experience in the subject and its related disciplines. Experience in the teaching of geology to GCE A level and in the teaching of these subjects to degree and equivalent levels is essential. Experience in employment and in the applications of geology to technology would be an advantage.

Starting salary for all posts is within the range £16,200 - £21,800. Relocation expenses of up to £5,000 may be payable.

Application forms (to be returned as soon as possible and not later than 14 December 1984) and further information may be obtained from Mr. E. D. Foster, Department of Education and Science, 29, York Road, London, SE1 7PH. Telephone: 01-928 9222, extens. 2488, 2487 or 2487.

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Overseas continued

KENYATTA UNIVERSITY COLLEGE OFFICE OF THE REGISTRAR

PROFESSOR - LANGUAGES & LINGUISTICS DEPARTMENT - KAC/10/84/50

Applicants should be holders of Ph.D. or its equivalent in Languages and Linguistics with extensive experience in teaching at University level. They should have done substantial research evidenced by publications. Ability to teach any two of the following languages: Kiswahili, English and French besides Linguistics will be an added advantage.

PROFESSOR - CHEMISTRY DEPARTMENT - KAC/10/84/51

Applicants for the post must be specialists in either Physical or Organic Chemistry with Ph.D. in Chemistry, a long experience in University Teaching and proven ability to initiate and carry out Research in their area of specialisation.

The successful applicant will be expected to teach Bachelor of Education, Bachelor of Science, Master of Science and Ph.D. students, carry out Research in his area of specialisation and take part in Teaching Practice.

ASSOCIATE PROFESSOR - CHEMISTRY DEPARTMENT - KAC/10/84/52

Applicants for this post must have Ph.D. in Chemistry with specialisation in either analytical or inorganic chemistry, a long experience in University teaching and proven ability to initiate and carry out research in their area of specialisation.

The successful applicant will be expected to teach Bachelor of Education and Bachelor of Science courses and take part in training of graduate students both at Master's and Ph.D. level. The successful applicant will also be expected to carry out research in his area of specialisation and participate in Teaching Practice.

ASSOCIATE PROFESSOR - LANGUAGES & LINGUISTICS DEPARTMENT - KAC/10/84/53

Applicants should be holders of Ph.D. or its equivalent in Languages and Linguistics. They should have considerable teaching experience at University level. They should also have done research and published substantially.

The successful candidate will be required to teach Linguistics or its application to one of the following Languages: Kiswahili, English and French.

ASSOCIATE PROFESSOR - PHYSICAL EDUCATION & GAMES DEPARTMENT - KAC/10/84/54

Applicants must be qualified Physical Education Teachers in possession of Ph.D. degree. Preference will be given to candidates who have taught physical education at University level for at least five years. The successful candidate will be required to conduct both undergraduate and graduate Physical Education Programmes, initiate plans for and supervise related research work in the department and to supervise students during Teaching Practice and Outward Bound courses.

SENIOR LECTURER - LANGUAGES AND LINGUISTICS DEPARTMENT - KAC/10/84/55

Applicants should have Ph.D. or its equivalent in Languages or General Linguistics plus considerable teaching experience evidenced by research and publications. The successful candidate will be expected to teach General Linguistics and its application to either Kiswahili, English or French.

SENIOR LECTURER - PHYSICS DEPARTMENT

Applicants must be in possession of a Ph.D. degree. The successful candidate will be expected to teach at both undergraduate and post graduate levels and will have a good record of published research. Research interests in the department include Physics Education, solid state physics and Electronics.

LECTURER - ENVIRONMENTAL EDUCATION DEPARTMENT - KAC/10/84/56

Applicants must have a good first degree in Science as well as a post graduate degree in Environmental Studies. Candidates with post graduate degrees in any of the physical or natural science disciplines will be considered. The successful candidate will be expected to teach undergraduate and post graduate courses, supervise research at these levels and carry out research in his area of specialisation.

Terms of Service include membership of Senior Staff Superann